The MODERN HOSPITAL

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

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NEW YORK ORTHOPEDIC HOSPITAL HAS NEW HOME

Renaissance Style of Architecture Selected to Meet Exacting Conditions of Restricted Space—Color Schemes Worthy of Special Note—Green Operating Rooms—Walls Divided by Dadoes and Friezes—Some of the Details

By L. M. FRANKLIN, of York & Sawyer, Architects, New York

THE work of this charitable institution consists in the treatment of crippled children and adults, administered in the dispensary, in the hospital, in the home by the visiting nurses, or at the country branch for convalescents at White Plains.

The special conditions which the architects had to study in designing a building to house this institution, and which proved to be the controlling factors in determining the plan, may be stated briefly as follows:

1. The site is in the middle of the block. It has a frontage of about 88 feet on Fifty-ninth street and 127 feet on Fifty-eighth street, the level of Fifty-eighth street being four steps higher than Fifty-ninth street.
2. A single entrance was required for all employees, patients, and visitors.
3. Numerous small rooms were necessary, and, to light these, a building with a long perimeter.
4. A very large dispensary, well lighted, with good natural ventilation, had to be arranged conveniently for the surgeon to attend to his four classes of patients; new, continued, male or female.
5. Ten-bed ward units were determined on; at least three units to be placed on a floor.

With these fixed conditions, the problem was to plan a hospital which should have not only light wards and a well-arranged dispensary, but an enormous basement, covering 80 percent of the lot, in which practically every room should have good natural light and ventilation. After thorough study and preparation of numerous schemes, the cruciform plan was selected, as it proved by comparison to be the best solution of the problem, fulfilling all the requirements.

By referring to the floor plans it will be seen that the first, second, and third floors cover less area than the floor below, and that there are no inclosed courts above the basement. Planned in this way, it is possible to provide additional overhead lighting for the more important rooms in the lower stories, and even in the basement, the kitchen, laundry, and servants' dining rooms, and most of the bed rooms have direct sunlight for a good part of the day.

The building is of the most modern type of fireproof construction. The exterior walls are self-supporting, the structural steel carrying only the floor loads. The floor construction is of reinforced cinder concrete and the partitions of hollow terra cotta. The horizontal pipe lines are run below the floor construction and the ceilings hung below these lines. Access doors, flush with the plaster, are provided wherever there are valves or clean-outs.

The two main staircases, located respectively in the north and south parts of the building, are entirely inclosed and separated from the corridors by fireproof doors. The elevators, directly across the corridor from the staircases, are equipped with self-closing doors and a check to prevent the doors striking when they close, thus avoiding noise. A fire escape stairway leads down from the main roof into the northeast court.

The interior finish throughout is as simple and inexpensive as is consistent with good hospital construction. There are painted cement floors in the subbasement and basement, and in the bed rooms for the staff, nurses, and servants. The kitchen department, however, the laundry, most of the rooms in connection with the dispensary, the operating suite, dressing rooms, pantries, and

the toilets and baths have tiled floors. A special colored battleship linoleum is used in the offices, gymnasium, wards, quiet rooms, and in the ward corridors, with a terrazzo sanitary base and a floor border flush with the linoleum. At the junction of the linoleum and terrazzo (which are flush) there is a built-in brass strip, which not only serves as a guide for running the terrazzo, but also protects its edge until the linoleum is laid.

Tile wainscots set flush with the plaster are used in the kitchen, pantries, operating rooms, dressing rooms, plaster rooms, and in the toilet and bath rooms. The interior doors throughout have steel-framed trim flush with the plaster, thus avoiding the use of wood. In the corridors, wards, and certain other rooms there is a painted dado about 4 feet high, so that the lower portion of the walls, when defaced or finger-marked, may be repainted without touching the upper portion.

The individual floors are used as follows:

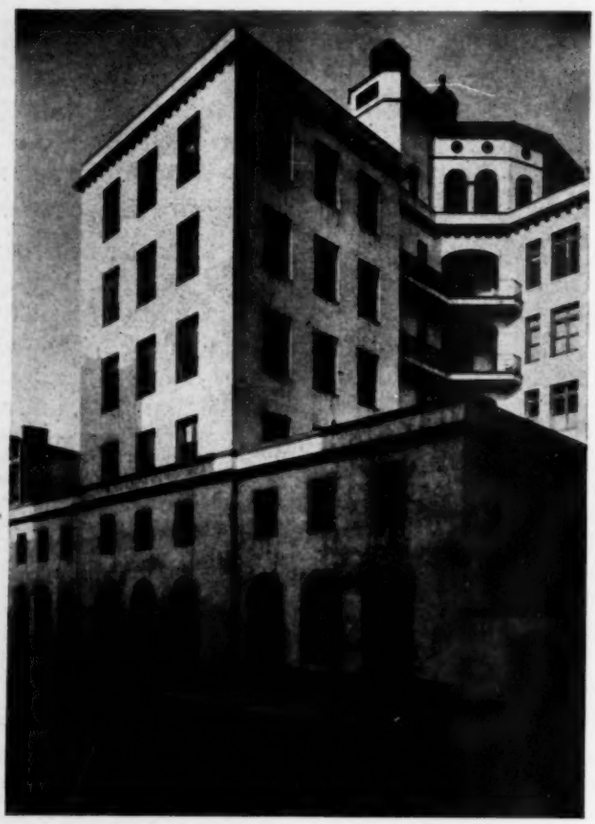

Fig. 1. New York Orthopedic Dispensary and Hospital. Side view. Front view is shown on the front cover of this issue.

SUBBASEMENT

The plant for supplying heat, power, light, ventilation, and refrigeration, and the suction and hot water tanks, filters, and pumps are in the subbasement at the south end of the lot. The heating is by direct radiation. The ventilation, reduced to a minimum, is divided into five separate units—namely, a fresh air supply and exhaust system for the subbasement; an exhaust for the brace shop department, x-ray rooms, gymnasium, and waiting room; an exhaust for the laundry, kitchen, and pantries; an exhaust for the toilets, baths, and maids' closets; a fresh air supply and exhaust system for the operating suite. This division of the ventilation into small units is economical, as the independent fans are operated only when the rooms which they ventilate are in use. In general, natural ventilation is relied on rather than artificial.

BASEMENT

All supplies, except those for the brace shop, are delivered at the service entrance on Fifty-ninth street, and dropped to the receiving room in the basement on an electric lift. When unpacked and checked, they are taken to the adjoining store rooms.

Directly across the corridor from the receiving room is the entrance to the kitchen department. Here are store rooms for groceries, canned goods, etc., a cooled vegetable room, three large refrigerators, and an ice cream room, with a stock ice box, power ice crusher, and power freezer. The kitchen, lighted on the south and overhead, is completely equipped with modern cooking apparatus. The automatic power dumbwaiters, serving the pantries, open directly from the kitchen. The servants' dining rooms are on the opposite side of the main corridor.

The laundry, lighted on two opposite sides, is equipped with individual motor-driven apparatus. Directly across the corridor are rooms for soiled linen, general linen storage, and assorting and marking.

The brace shop, with its auxiliary rooms for polishing and grinding, forge work, sewing, and leather work, store rooms and office, is on the Fifty-eighth street side of the lot. There is a separate entrance from the street for supplies for this department. The shop has windows on three sides, the polishing and grinding room has overhead light and windows on opposite sides, opening on areas, while the leather and sewing rooms have north light. All machines are individual motor-driven.

In the basement there are also bed rooms for the male help, a room where plaster jackets are made, a sterilizer large enough to take mattresses, a carpenter shop, store rooms, and toilet and locker rooms for the female day help and other employees. The engineer's and foremen's toilet is also on this floor instead of in the subbasement on account of the high level of the sewer.

FIRST FLOOR

The entrance on Fifty-ninth street is the only

one on this floor, the door on Fifty-eighth street serving only as a fire exit. Opening directly from the entrance lobby is the office, reception room, consultation room, and telephone booth, with the various offices, locker and toilet rooms, and the board room in close proximity. Doctors, nurses, and visitors going to the wards or operating suite take the first elevator without passing through the dispensary.

The waiting room opposite the entrance is planned so that everyone entering or leaving the dispensary passes in front of the registrar's desk. Opening from this room are two toilets, and back of the registrar are the history library and the head visiting nurse's office. Adjacent is a room where plaster casts are taken and prepared for the brace shop, a room where the patient's history is recorded, and two toilets.

The main dispensary room, separated by a short corridor from the waiting room, is two stories in height and lighted by ten large circular-headed windows. It is designed with a vaulted ceiling, has a buff quarry-tile floor with a black terrazzo base and border, and the walls show a high painted wainscot. The clerk's desk is in the center of the room, with a stairway to the basement directly behind it. The screens, of reinforced Keene cement, supported on brass legs, divide the room into several departments for examination and treatment.

The dispensary operating room, the scoliosis department, with a large gymnasium, dressing rooms, office, and plaster room, and the x-ray department, are in the south wing. The x-ray is planned with the coil room between two operating rooms, each furnished with small dressing rooms. Across the corridor are the dark room, library for developed plates, and the view room. The operating rooms, dark room, and view room have light-tight sliding shutters at the windows, with a light-tight ventilator below the sill.

SECOND FLOOR

The living quarters for the superintendent and interns are on this floor in the Fifty-ninth street wing. The contagious wards are between this wing and the upper part of the dispensary, and are isolated from the rest of the building. This is a complete unit, with two wards opening on flat roofs, toilet, diet pantry, and a nurses' room with bath. This department is entered through a vestibule, where the doctor may wash and change his gown. The maids' quarters are in the Fifty-eighth street wing on this floor.

THIRD FLOOR

The entire third floor is devoted to living quarters for the supervisor of nurses, housekeeper, and the nurses. The five bed rooms in the west wing are shut off by a corridor door and occupied by the night nurses. On this floor there is also a dining room with its pantry, a sitting room with casement sash opening on a balcony, a reception room, a sewing room, and a kitchenette.

FOURTH, FIFTH, AND SIXTH FLOORS

These are the ward floors, with three 10-bed wards on each floor, controlled by the charge nurse, who has her desk in the central hall. Each unit is separated from the main corridor by double doors, and consists of a ward, lighted on three sides, a dressing room, and a toilet and bath room. The loggias open directly from the central wards and from the main corridor. On each of these floors there are also two quiet rooms, a diet pantry served directly from the kitchen by two power dumbwaiters, an alcove off the main corridor, with a lavatory for the doctors, a nurses' toilet, and closets for ward accessories, patients' clothes, linen, etc. On the fourth floor there is an office for the supervisor of nurses, and an admitting room where patients are examined and bathed before being placed in the wards.

Fig. 2. New York Orthopedic Dispensary and Hospital. One of the wards.

The operating suite at the north end of the first ward floor is planned with the main operating room in the center, with the anesthesia, plaster,

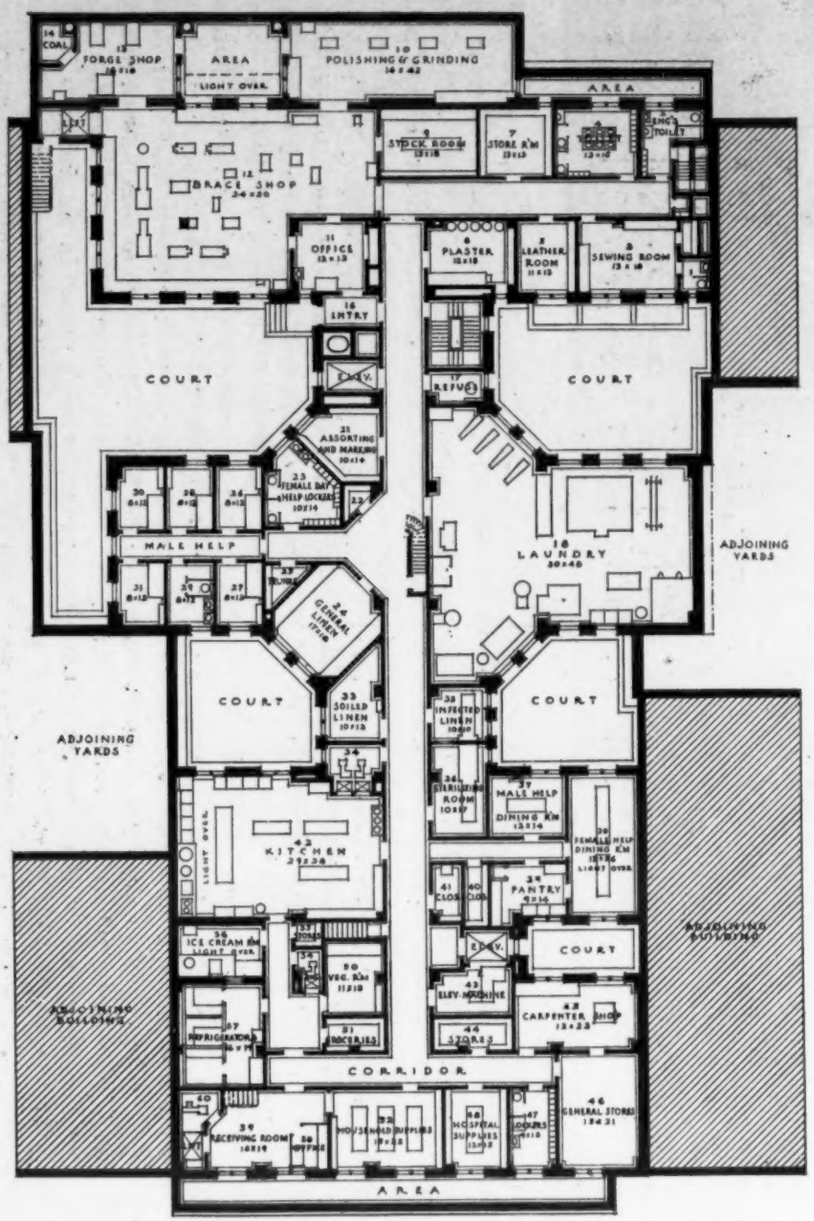

Fig. 3. New York Orthopedic Dispensary and Hospital. Basement floor plan.

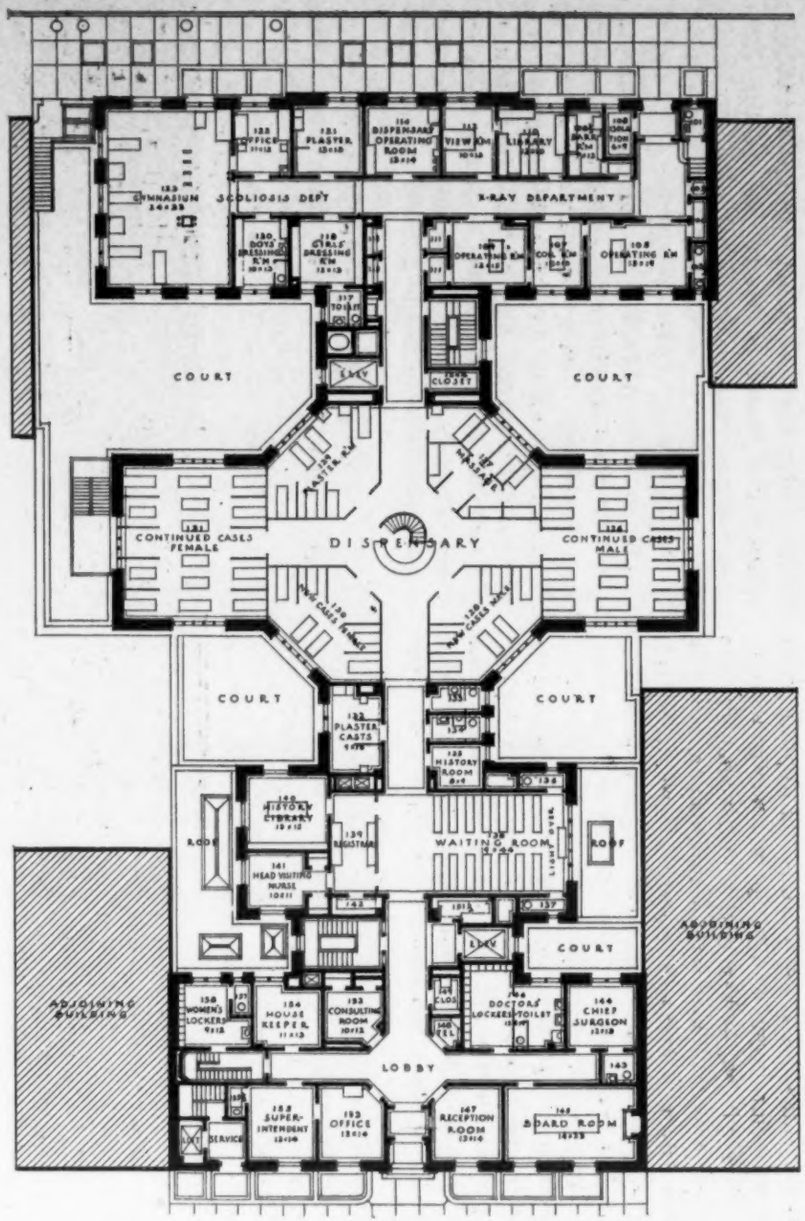

Fig. 4. New York Orthopedic Dispensary and Hospital. First floor plan.

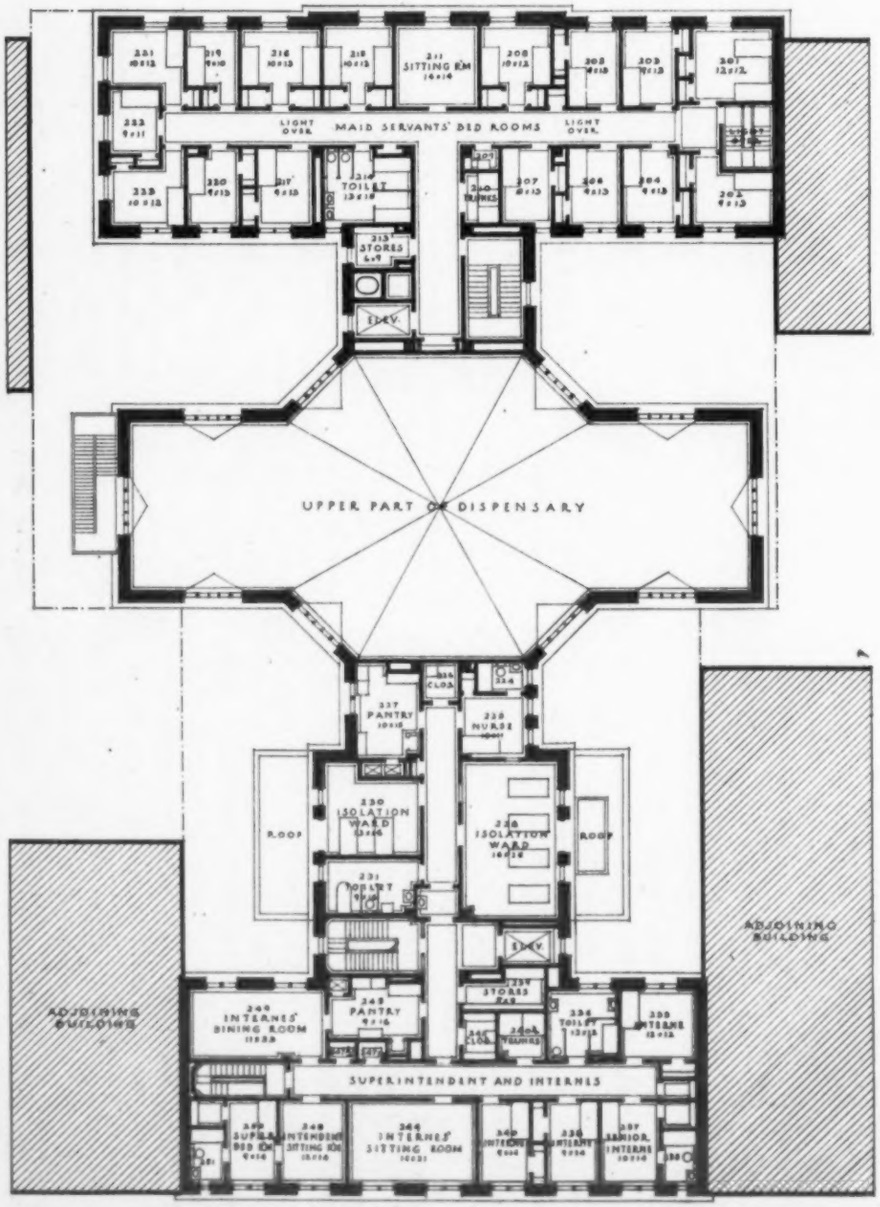

Fig. 5. New York Orthopedic Dispensary and Hospital. Second floor plan.

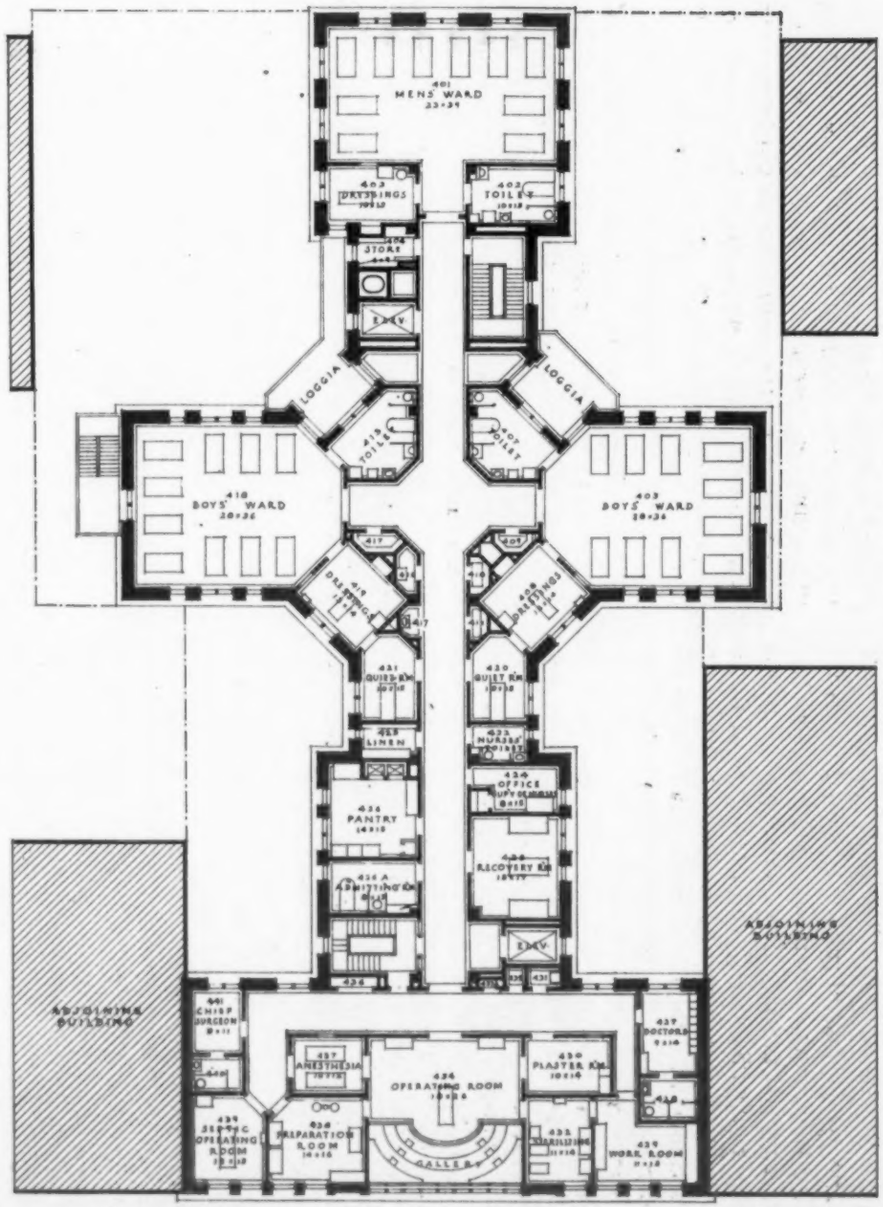

Fig. 6. New York Orthopedic Dispensary and Hospital. Fourth floor plan.

preparation, and sterilizing room opening from it. The small septic operating room adjoins the preparation room, and is conveniently near the room for anesthesia. The work room for the preparation of bandages, pads, etc., is to the west of the sterilizing room. There is also a doctors' locker room, with toilet and bath, and an office for the chief surgeon. The recovery room is just outside the suite.

The main operating room is arranged with an amphitheater seating forty-six. This is reached by the students and visiting doctors by an inclined passage from the floor above, thus obviating the inconvenience of having visitors in the operating suite. The seats in the gallery are supported on brackets and made of cast-iron modeled in the form of a bicycle saddle. This type is not only sanitary, but takes so little space from the passageways as to enable the observers to be placed much closer to the operation than is usual. The room is lighted by north window and skylight constructed of steel and glass, and provided with condensation gutters. Inside the window is a glass screen in a steel frame. As hot air is introduced between the sash and this screen, there is no down draft, even in the coldest weather. The floor and wainscot in both operating rooms are of dark-green tile, while the upper walls are of plaster painted a light color. With this dark wainscot and floor, the surgeon, looking up from the patient, does not encounter a glare of light and find his eyes useless for a moment when he returns to his work, as is the case with white floor and walls. The ventilating apparatus for this department is in the attic space directly above the operating suite.

The drug room and laboratory are on the fifth floor. The latter is equipped for doing all the necessary pathological, bacteriological, biological, and chemical work of the hospital. On the sixth floor is an autopsy room and an isolation room, with its bath and toilet room.

SEVENTH FLOOR

Only the central portion of the building is carried up above the seventh floor, leaving a large area of flat roof for outdoor treatment and recreation. The loggia gives ample protection in stormy weather. On this floor is a rest room for nurses, two toilets, a mattress room, and a tank room in connection with the refrigerating apparatus. A stairway leads to the attic space above. Here is the house tank, two of the exhaust ventilating fans which discharge the foul air through the cupola, and considerable storage space.

EXTERIOR

The exterior is designed in the renaissance style of northern Italy. The wall surfaces are of stucco, and the cornices, trim, coping, and sills of a special red terra cotta. The sloping roofs are covered with tile the same color as the terra cotta. The windows on the ward floors have transoms hinged at the bottom to swing in.

CAPACITY

There are nine wards planned for 10 beds each, or a total of ninety ward beds. Six quiet rooms, a 2-bed isolation room, and 6 beds in the isolation department make a total of 104 patients' beds. There are twenty-eight single rooms for nurses, three suites for the superintendent, supervisor of nurses, and housekeeper, four rooms for interns, accommodation for twenty maids and five male help, giving a total bed capacity of 164.

Fine Flour Bread an Imperfect Diet

Man is the only animal that spoils his food before he eats it. There seems to be a general awakening throughout the civilized world as to the importance of preserving the natural properties of foodstuffs. The history of dietetics illustrates in a really tragic way the truth of the old adage, "a little knowledge is a dangerous thing."

When the chemists discovered starch, fats, and protein, and recognized these substances, together with salt, as the primary and essential food principles, the impression soon prevailed that we were now thoroughly informed on the subject of diet—at least respecting food composition. But recent scientific investigations have developed a world of new, important, and interesting facts in relation to food which were never dreamed of by the chemists of the last generation. For example, it has been discovered that proteins differ widely in their composition, that every plant produces its own peculiar protein, and even the different tissues of an animal differ widely in composition.

Fats differ as widely, and this difference is not destroyed by the process of digestion, for animal fats enter the body and are deposited in the tissues in practically the same form in which they are eaten. For example, if a dog or a man is fed on beef fat or tallow, his own fat becomes tallow that is identical in composition with the original beef fat. In like manner lard, the peculiar fat of fishes, and other fats are transported into the tissues and deposited in their native form.

The discovery of vitamines is one of the most startling of modern revelations in relation to dietetics. Vitamines are found in all natural foodstuffs. They are essential to the welfare of the body because they serve as activators—subtle substances found in the body, through which the building of the tissues and various other bodily processes are carried on. Without these "activators," normal tissue building fails. The terrible results of this failure are seen in beriberi, scurvy, and pellagra, in which the patient's tissues perish while he is still alive, even though he is supplied with an abundance of food—the essential vitamines are lacking. Vitamines of the highest value are found in the bran or protective covering of rice, wheat, and other cereals. When this bran is removed, as in the polishing of rice or the bolting of wheat, the portion of grain which remains is lacking in vitamines. If a person subsists exclusively, or even very largely, on such a food, the result will be some serious nutritive disorders.—Good Health.

IS MECHANICAL VENTILATION IN HOSPITALS A SUCCESS?

Wards and Patients' Rooms Should Have Window Access to Good Air—Toilets and Service Rooms Should Be Connected to Exhaust Fan System—Forced Intake of Fresh Air Neither Necessary Nor Efficient—Most Plants Are Shut Down

By FRANK SUTTON, E. E., Consulting Engineer, New York.

IS mechanical ventilation for hospital wards essential for the welfare of patients? The writer has come to the conclusion that in the majority of cases forced ventilation may be eliminated from the average hospital ward.

The object of this article is to place before those interested in hospital construction an outline of general hospital practice as far as the ventilating equipment is concerned, based on a number of years' experience in the design of this part of hospital equipment, and an effort will be made to show the changes in this practice which have taken place in the past fifteen or twenty years. I have tried to eliminate technical terms, and the article will be confined to generalities, so that a person not familiar with the technical side of engineering may be able to intelligently understand the general line of work which is being done in hospitals at the present time.

Owing to the unusual conditions under which a hospital is operated, and the enormous expense incident to the care of patients, it is impossible to make a sufficient charge to cover the operating expenses. The hospital is, therefore, obliged to increase its source of revenue, either from endowment funds or subscriptions, or from entertainments and other sources. It can be readily seen that in the design of a hospital it is most essential, not only to be economical in the first cost, but also to design the plant in such a manner that the operating expenses are reduced to a minimum. The question, therefore, sifts itself down to what part of the equipment which is not absolutely essential to the welfare of the same may be eliminated.

When hospitals were first designed, there was no such thing as mechanical ventilation, and therefore it was necessary, in case more fresh air was required in wards, to open the windows. After this period the ventilating fan was developed, and it was deemed advisable to install what are known as forced systems of ventilation. This was found particularly advisable for auditoriums, schools, churches, and other buildings where large masses of people congregated, and where it was essential to introduce air by mechanical means, due to the fact that in a large number of cases it was impossible to get sufficient window area to introduce air directly from out of doors. This was not exactly the case in hospital wards, as the number of patients occupying a ward is limited to the number of beds that can conveniently be placed in a ward, and, further, to the cubic contents, but a large number of architects, engineers, and others interested in the construction of hospitals were of the opinion that it was essential for the welfare of the patients that all windows be closed, and that sufficient air could be forced into the wards to amply take care of all requirements. Of late years this practice seems to be on the wane in connection with hospital wards, which the writer believes is due to two principal reasons:

First, that the modern practice of treating the average patient is to produce a condition in the ward which is as near outdoor conditions as possible. This can be done only by opening all the windows possible and practically having an outside condition in the ward, which cannot be obtained by mechanical ventilation, because the building cannot be constructed with sufficient duct space to produce these results, except through large first cost.

Second, that the first cost of a system of mechanical ventilation is very expensive, and it is also expensive to keep such a system in operation, for the reason that it is essential to have a large amount of heating surface in connection with the fans, and also because all moving machinery naturally requires considerable power to run it. It is, therefore, a constant source of expense to the hospital management to keep this machinery in operation.

In the foregoing statements it is not the intention to convey the impression that systems of mechanical ventilation are of no value whatsoever, as in a large number of instances it is highly advisable to install fans in buildings, and even where the system of forced ventilation is eliminated from the wards it is most essential to install them in other portions of the building. In a very congested district of a large city, for instance, where a hospital is located in such district, and where there is apt to be a large amount of floating matter in the air—such as dirt and dust from neighboring manufacturing establishments, or the like—it would probably be advisable to put in a forced ventilation system for the wards, in which case the air should be passed through air washers in order to eliminate as much of the suspended matter as possible from the air. Even in

cases like these, however, on some days it would probably be found that the mechanical system could be shut down and the open windows used—perhaps the direction of the wind might have something to do with the clearer and cleaner atmosphere.

As has been stated, there are certain parts of a hospital which should be connected with mechanical fans for the removal of foul and vitiated air, but the introduction of fresh air into these places is not necessary, as the air can be drawn through the rooms by open windows or through other parts of the building. These rooms consist chiefly of toilet rooms, diet kitchens, slop sink rooms, the main kitchen, butcher shop, laundries, and other parts of the building where the air has a perceptible odor, or where it is necessary to carry off smoke, steam, or other vapors.

A number of cases have come to the writer's personal knowledge where elaborate ventilating systems were installed, but at the present time are shut down. Some years ago the writer designed a ventilating system for Fordham Hospital, located in the city of New York, where a system of fresh air fans was installed in the basement and the ventilating fans installed in penthouses on the roof. The exhaust system was separated—that is, the wards were placed on one system of fans, and the toilet rooms, kitchens, and other rooms were placed on another system of fans. After the building had been in operation for some time, the entire system was placed out of commission, with the exception of the fans operating the toilet rooms and the like, which I understand are still in use.

Another hospital with which the writer was connected is the new Greenpoint Hospital, just recently finished in Brooklyn, New York, where a compromise system was decided on—namely, the introduction of fresh air was eliminated from the wards, with the exception of indirect radiators, where wall boxes were installed through the walls and a certain amount of fresh air was allowed to come into the rooms through the radiators. A system of exhaust ducts was introduced, terminating in an aspirating coil located in the attic space of the roof. As this hospital has been in operation only a short period, it is problematical as to what disposition will be made of the ventilating system, such as it is, but it will probably be left in its present condition because it costs very little to operate.

Another case with which the writer is at present connected is the addition to the Jersey City General Hospital, where the present hospital building is to be duplicated. The present building is equipped with a complete system of forced ventilation, but I understand from the hospital authorities that the fans have been shut down for a number of years, and in the design of the new hospital building, which is somewhat larger than the present one, all mechanical ventilation for wards is to be entirely eliminated, and the only ventilation provided will be for toilets and other rooms of this character, which rooms will be placed on the exhaust fan system.

Still another case is the system installed in the new Union Benevolent Association Hospital, at Grand Rapids, Mich., which building is probably one of the most completely equipped of its kind that has been erected, but where mechanical ventilation has been eliminated from all rooms, with the exception of toilets, etc., which are on an exhaust fan system.

There is another class of buildings similar, in a way, to a general hospital—namely, those for insane patients. Some years ago the writer was connected with a large insane asylum in New Jersey, where an elaborate system of ventilation was provided for each building, which included the fresh air supply for the dormitories, wards, sitting rooms, dining rooms, and other portions of the buildings. As this institution consisted of a group of seven or eight very large buildings, it was necessary to install fans for each individual building. From the reports which the writer has received it is believed that these fans are not being used at present, although in the writer's opinion a system of ventilation in a building of this character is really of more importance than in a hospital building for the reason that the patients are not physically sick, and are, therefore, not confined to bed, and it would be a serious matter, in order to obtain fresh air for rooms, which certainly need fresh air, to have the windows open and the patients exposed to cold drafts.

In recent years the state of New York, in erecting some of the groups of buildings for insane patients, have apparently deemed it inadvisable to provide for any ventilation for wards, dormitories, or rooms of this character, but have constructed the buildings on very spacious lines—that is, the rooms are very large and have high ceilings. Probably the best illustration of this is some of the new buildings recently constructed at the Central Islip State Asylum for the Insane at Central Islip, Long Island, which are probably among the finest buildings that have been constructed for this class of institution, and the hospital authorities in this case apparently have not seen fit to provide for any ventilation whatsoever, with the exception of the parts of the building devoted to kitchen purposes, which are ventilated through a skylight in the center of the kitchen.

Those interested in hospital construction may, therefore, draw their own conclusions as to the tendency to eliminate ventilation from buildings of this character, but, as the writer has explained, this can be carried to the other extreme, and a happy medium should be sought in the design of ventilating systems for such buildings. It is very evident that it is next to impossible, by so-called window ventilation, to properly keep the air in good condition in toilets and similar service rooms without an exhaust fan, which must be kept running constantly in order to clear the room of foul and vitiated air as rapidly as possible; but, as for the mechanical introduction of air in hospital wards, the medical and hospital fraternities have apparently ruled that this is not necessary, which conclusion has, I presume, been reached from a series of experiments, and the writer has come to the conclusion that the medical fraternity probably knows, or at least should know, more about this branch of the business than the mechanical engineer.

ORANGE MEMORIAL HOSPITAL—ANALYSIS OF STATISTICAL DATA

Figures Concerned in the Annual Report Develop Usefulness of the Institution to Its Community—Method of Compilation Intended to Render Future Comparisons More Valuable

By DR. FREDERICK L. HOFFMAN, Statistician Prudential Life Insurance Company of America.

THE most useful and conclusive method of presenting the annual results of hospital experience is on the basis of the total discharges—that is, completed hospital cases. An analysis by cases treated varies but slightly in the aggregate results, but especially in the case of chronic diseases the inclusion of uncompleted cases or of patients still under treatment at the end of the year may lead to serious statistical errors. The Memorial Hospital, therefore, will hereafter present the results of its annual experience in detail only on the basis of discharged or completed cases.

The total number of patients discharged during 1915 was 2,252.[1] Of this number 1,996, or 88.6 percent, were white patients and 256, or 11.4 percent, were colored patients. On account of the fact that the disease distribution and fatality rates vary quite considerably for the two races, it has seemed advisable to present the facts separately for the white and colored. The same conclusion applies to the separate presentation of the data for males and females. Of the 1,996 white patients, 928, or 46.5 percent, were males and 1,056, or 52.9 percent, were females. (Sex not stated in 12 cases, 0.6 percent.) Of the 256 colored patients, 100, or 39.1 percent, were males and 156, or 60.9 percent, were females.

The table herewith presents the general results for white patients, according to sex and three divisional periods of life.

It is shown by this table that of the white male patients, 57.3 percent were discharged as cured or recovered, against 72.5 percent for white female patients. The proportion reported as improved, however, was 30.5 percent, against 18.1 percent for females. The proportion reported as unimproved was practically the same for both sexes. The fatality rate was 7.4 percent for males, against 4.4 percent for females. As shown by the appended tables in detail, the higher fatality rate among males is largely attributable to the higher proportion of accidents. The preceding summary table for the white patients emphasizes the importance of a thorough analysis of the data, since a material variation in the fundamental factors—such as the race, sex, and age distribution of the patients—may result in percentages more or less untrustworthy.

DISCHARGES DURING 1915—CONDITION ON DISCHARGE BY SEX AND AVERAGE DURATION OF TREATMENT

Total discharges—white patients—all services.

Condition on discharge	Males and females	Males			Females		
		No.	Percent	Average days treated	No.	Percent	Average days treated
Cured	1,308	532	57.3	15	766	72.5	14
Improved	475	283	30.5	15	191	18.1	19
Unimproved	88	40	4.3	11	48	4.5	11
Died	116	69	7.4	14	46	4.4	20
Result not stated	9	4	0.5	7	5	0.5	5
Total discharged	1,996	928	100.0	15	1,056	100.0	15
Total boarders	.....	...	.....	..	.....	.....	..
Not treated	7	...	.....	..	7	.....	..
Stillbirths	6	5	.....	..	1	.....	..

RESULTS BY DIVISIONAL PERIODS OF LIFE

Condition on discharge	Ages under 15 years.			15 to 44 years		45 years		Not stated	
	Sex unknown	Male	Female	Male	Female	Male	Female	Male	Female
Cured	10	274	215	197	482	60	61	1	8
Improved	1	62	22	136	104	83	60	2	5
Unimproved	..	9	7	20	21	11	18	..	2
Died	1	26	13	18	18	24	14	1	1
Result not stated	..	1	...	2	4	1	1	..	..
Total discharged	12	372	257	373	629	179	154	4	16
Average duration of treatment, days	15	13	11	14	15	19	25	17	15

Among the colored patients the proportion discharged as cured or recovered was 53 percent for males, against 57.3 percent for white males, and 64.1 percent for females, against 72.5 percent for

[1] 17 stillbirths and 7 "boarders" not included.

white females. The proportion discharged as improved was 34 percent for colored males and 21.1 percent for colored females. The proportion discharged as unimproved was practically the same for both sexes, or 6.0 for males and 5.8 for females. The corresponding percentages for white patients were 4.3 for males and 4.5 for females. It is shown, therefore, that the proportion discharged as cured or recovered was lower for the colored for both sexes, while the proportion discharged as unimproved was distinctly higher for the colored, and also for both sexes. The fatality rate was 7.0 percent for colored males, against 7.4 percent for white males, and 9.0 percent for colored females, against only 4.4 percent for white females. The numbers under consideration for the colored are rather small for a safe generalization, and it has not seemed necessary to present the facts in summary tabular form. It would appear, however, that for the negro patients, treated under identical conditions, the institutional results were less satisfactory, attributable, of course, to a lower racial degree of vital resistance and a higher general mortality, as conclusively disclosed by all available comparative vital statistics.

The community service of the Orange Memorial Hospital is not limited to the city of Orange alone. This fact is of considerable practical importance with regard to the financial and general support of the institution. An analysis of the admissions during 1915 proves conclusively the far-reaching importance of the Memorial Hospital to all the Oranges. The following table shows the admissions, whether free and part-pay patients, or private and semiprivate patients, for each of the Oranges, and with reference to population:

ADMISSIONS DURING 1915[1]

City	Population 1915 (estimated)	Private and semi-private patients	Free and part-pay patients	Total patients	Rate per 1,000 of population
Orange	32,375	129	821	950	29.3
East Orange	40,804	231	291	522	12.8
West Orange	13,026	59	227	286	22.0
South Orange	6,717	69	81	150	22.3
Total, Oranges	92,922	488	1,420	1,908	20.5
Newark	.....	30	90	120	....
Other cities	.....	131	115	246	....
Total	.....	649	1,625	2,274	....

[1]Male and female, white and colored.

It is shown that out of 2,274 patients admitted during 1915, 1;908, or 83.9 percent, were from the Oranges; 120, or 5.3 percent, were from Newark; and 246, or 10.8 percent, were from other cities. In proportion to population, the admission rate for the city of Orange was 29.3; for East Orange, 12.8; for West Orange, 22.0; for South Orange, 22.3 per 1,000. Considering free and part-pay patients only, the admission rate for Orange was 25.4; for East Orange, 7.1; for West Orange, 17.4; and for South Orange, 12.1 per 1,000 population. Considering private and semiprivate patients only, the admission rate for Orange was 4.0; for East Orange, 5.7; for West Orange, 4.5; and for South Orange, 10.3 per 1,000 population. For all the Oranges combined, the admission rate for free and part-pay patients was 15.3, and for private and semiprivate patients, 5.3 per 1,000 population.

The analysis shows conclusively the great advantage of adequate hospital facilities for private and semiprivate treatment to patients having their residence in East Orange, West Orange, and South Orange. It is only natural that the relative admissions of free and part-pay patients should be highest for Orange, but the admission rate is also relatively high for West Orange. The influence of the institution, however, extends beyond the four Oranges, and includes Newark and other cities. For these cities, of course, the admission rates in proportion to population would be of no value. The data establish in the most convincing manner the far-reaching community service rendered by the Orange Memorial Hospital, and by inference suggest the generous voluntary financial support from all the communities concerned.

WEST VIRGINIA HOSPITAL MEETING

Newly Formed Association to Hold Second Annual Meeting—Good Program Assured

The next annual meeting of the West Virginia Hospital Association will be held in Wheeling, May 18, at the McLure Hotel.

The West Virginia State Medical Association holds its meeting at the same place on May 16, 17, and 18, and it is expected that May 18 will be practically given over to discussions of hospital problems, both associations taking part.

Secretary-Treasurer Dr. W. H. St. Clair, of Bluefield, has had unusual difficulties to overcome in getting up his program, but promises that eventually it will be full of interest and profit to the hospital people and physicians of the state. Among those already assured for papers are Howell Wright, of Cleveland, secretary of the Ohio Hospital Association; Dr. Wingerter and Mr. E. A. Sinks, of Wheeling, and D. C. L. Bonifield, of Cincinnati.

The small hospital should offer the country population the same advantages that the large hospital extends to the city population. It should be an institution which can be reached in a short time and which should assure the sick proper care and treatment. It should have special facilities to isolate patients with contagious diseases.—Helwes.

Second only to fresh air, I should be inclined to rank light in importance for the sick. Direct sunlight, not only daylight, is necessary for speedy recovery, except perhaps in certain ophthalmic and a small number of other cases.—Florence Nightingale.

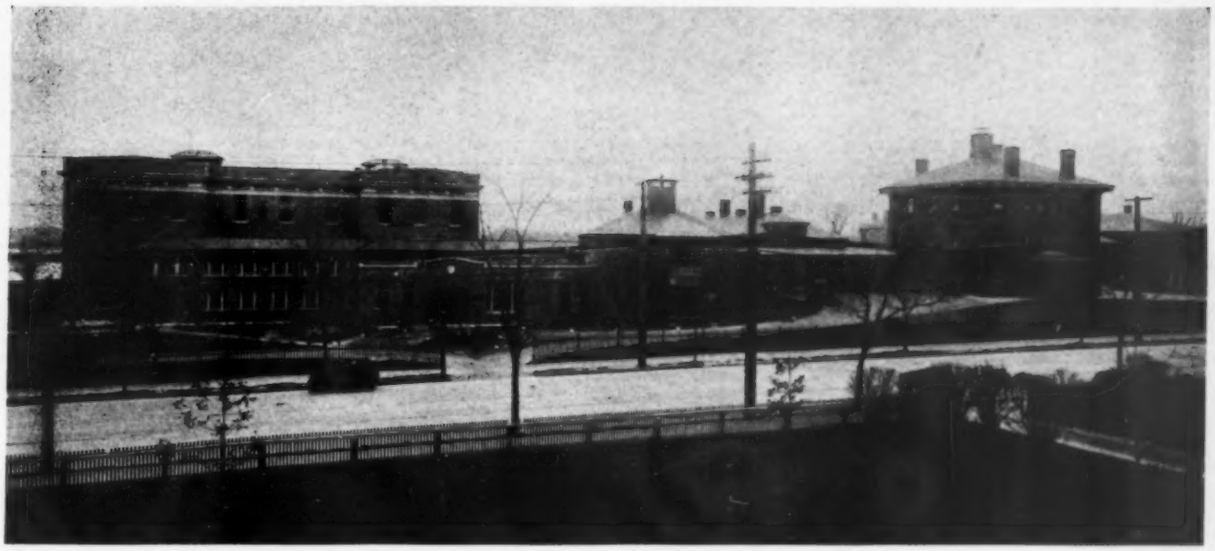

Fig. 1. Cambridge Hospital. Bird's-eye view.

CAMBRIDGE HOSPITAL'S NEW HOME AND FINE ORGANIZATION

After Many Vicissitudes, Institution on Charles River Assumes Large Size—Organizations of Men and Women Divide Work in Many Branches of Public Health—Some of the Features of the New Building

By CHARLES N. COGSWELL, Architect, Boston

IN 1867 Miss Emily Parsons, who had served as a nurse for two years in army hospitals during the Civil War, opened a hospital in Cambridge for women and children. It remained open for a year, and was then temporarily given up on account of the difficulty of finding a house suitable for the purpose. In 1869 a house was found, and the hospital again opened. In 1871 the unselfish and devoted efforts of Miss Parsons led several prominent citizens to procure an act of incorporation for the Cambridge Hospital, but even then the money necessary to sustain the charity was not obtained, and in 1872 the hospital was again closed. It was not until the year 1881 that the pressing need of some provision for the sick of Cambridge dependent on treatment in some hospital became so apparent that a successful attempt was made to raise funds sufficient to reestablish the institution. Dr. Morrill Wyman, in his day one of the foremost physicians in the country, was very active in this early work.

Mr. Isaac Fay was the first large benefactor of the new enterprise, and bequeathed to the hospital the sum of $10,000 to be used for a building fund. Several generous gifts were received, and a substantial addition to the funds was made from the proceeds of a fair held by the women in Cambridge. The public interest had at last been thoroughly awakened, and in 1883 the lot of land on which the hospital now stands was purchased. The erection of buildings was begun in 1884, and the Cambridge Hospital was opened for the reception of patients May 1, 1886.

The site of the hospital is a lot of nine acres on the bank of the Charles river. The soil is dry gravel, the buildings stand twenty-five feet above the river and sufficiently distant from its bank, with a fine view across the river of the broad expanse of the Metropolitan Park drive and the Harvard athletic field, with its picturesque stadium. The hospital stands between the Stillman Infirmary of Harvard College and the Cambridge Home for Aged People, and is on the electric car line.

The original hospital, planned by William E. Chamberlin, architect, consisted of a main building of three stories and basement, which housed all departments of a cottage hospital, including private rooms and two one-story wards, the whole forming three sides of a hollow square, with the opening toward the south and the river. The male ward was given as a memorial by Mr. Francis C. Foster, of Cambridge. The total capacity of the hospital was between 30 and 40 beds.

The first addition to the hospital plant was a separate brick cottage, erected near the river bank on the southern portion of the property, for the care of patients sick with communicable diseases. Some years afterward a comfortable and much-needed two-story brick building for the nurses was

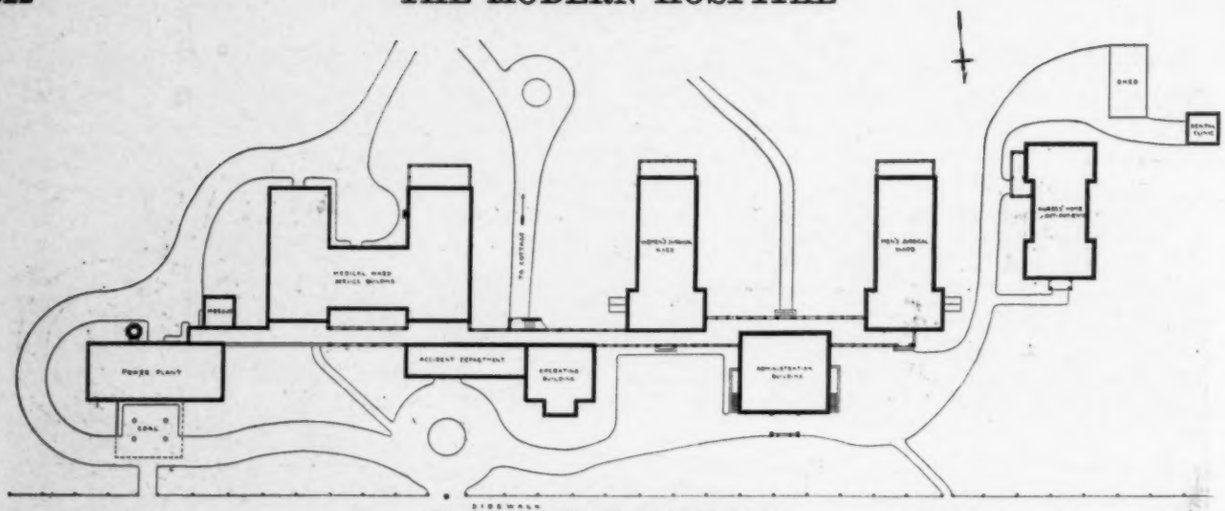

Fig. 2. Cambridge Hospital. Block plan.

opened. The southern portion of the basement of this building was fitted up as an out-patient department. The next addition was a building for surgical operations, completely adapted to its purposes and easily accessible from the wards and the administration building.

The generous bequest under the will of Mrs. Fiske Collard made it possible for the hospital to start a larger addition to the existing plant, and in 1913 a new building, planned by Charles N. Cogswell, architect, was opened, which increased the total capacity of the hospital to more than 75 beds, and a general rearrangement of the different departments was made. A large separate heating and power plant was installed for all the buildings except the nurses' home and the cottage, with ample space for future growth.

The new building is of red brick, with artificial stone trimmings, and has a flat composition roof. The first floor is of reinforced concrete construction. The general framing elsewhere is of wood, supported on steel girders and columns, and all stairways are of steel construction, with slate treads. The building has an electric elevator and

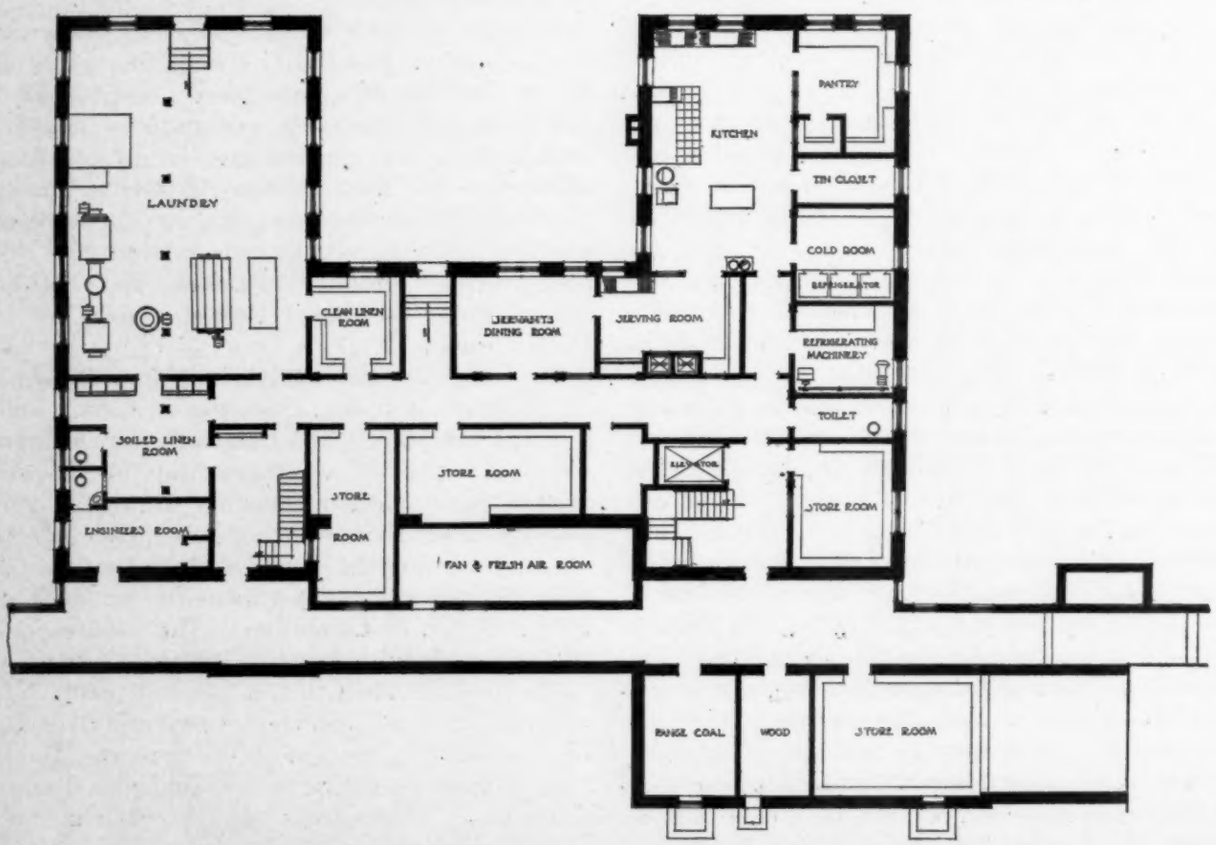

Fig. 3. Cambridge Hospital. Basement floor plan.

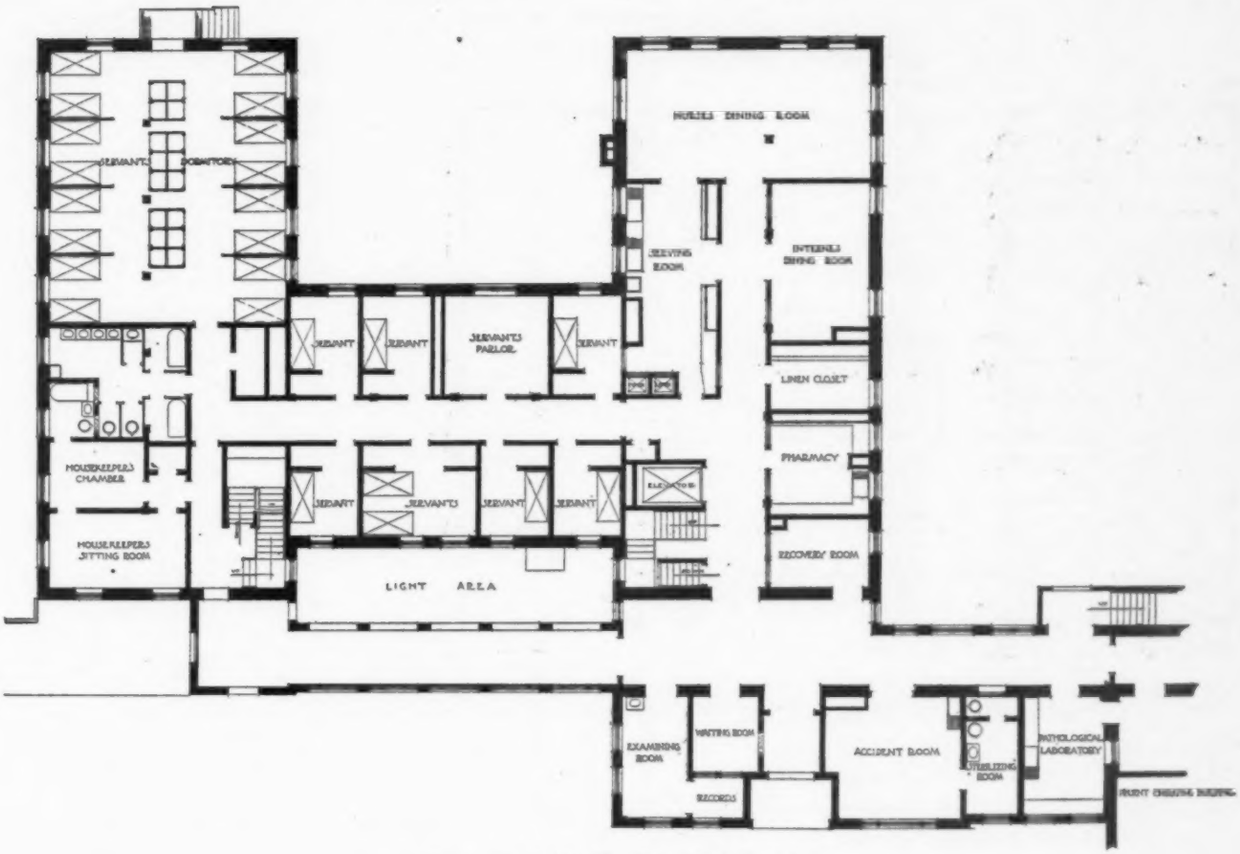

Fig. 4. Cambridge Hospital. First floor plan.

hydraulic food lifts. The general heating is by direct steam radiators, supplemented by a plenum fan system, which supplies a filtered and tempered air supply. The foul air vent ducts are provided with steam coils near their discharge points.

The basement is devoted to the laundry, with its soiled and clean linen rooms, the large general kitchen, etc., the refrigerators and refrigerating machinery, and the artificial ventilation plant. Excellent natural light is obtained, as the important portions of the basement are to the south and the windows are above grade. The basement contains also a morgue, a fumigating room for bedding, and a well-equipped x-ray department.

The first floor of this building, which is at the grade of the basement of the original hospital, has an emergency accident department on the front, conveniently situated for ambulance cases, and the pathological laboratory. One wing contains the dining rooms for interns and nurses and a general pharmacy. The remaining portion of the space on this floor contains the sleeping quarters of the women servants of the hospital. Some are in private rooms and the remainder in a large double cubicle dormitory. The housekeeper's suite is nearby.

The second floor contains an open male medical ward, with solarium, a small ward for two or three children, and four private wards. There is also a diet kitchen, a duty room, and bath and toilet rooms. The quarters for the interns and the male ward attendants occupy the whole area of the eastern wing.

The female medical ward on the third and top floor is on the same plan is the male ward below. The maternity department is situated in the eastern wing of this upper floor. Patients may enter the open ward or engage a private room. There is a well-equipped case room, with sound-deadened walls and floor, and a crib room. Food is served from the general diet kitchen on the same floor, but the department has its own duty and sterilizing rooms. With the general change to apartment house living, noticeable in all our cities, it is felt that the maternity department of the hospital will be of constantly growing importance.

The general finish is of ash and the upper floors are of maple. Heavy battleship linoleum is used as trackers in the main corridors and wards of the hospital portions, and completely covers the hardwood floors of all diet kitchens, duty rooms, etc.

The hospital is governed by a board of trustees, composed of twelve prominent citizens of Cambridge. Dr. Morrill Wyman was president of the board until 1892, and since then Dr. Henry P.

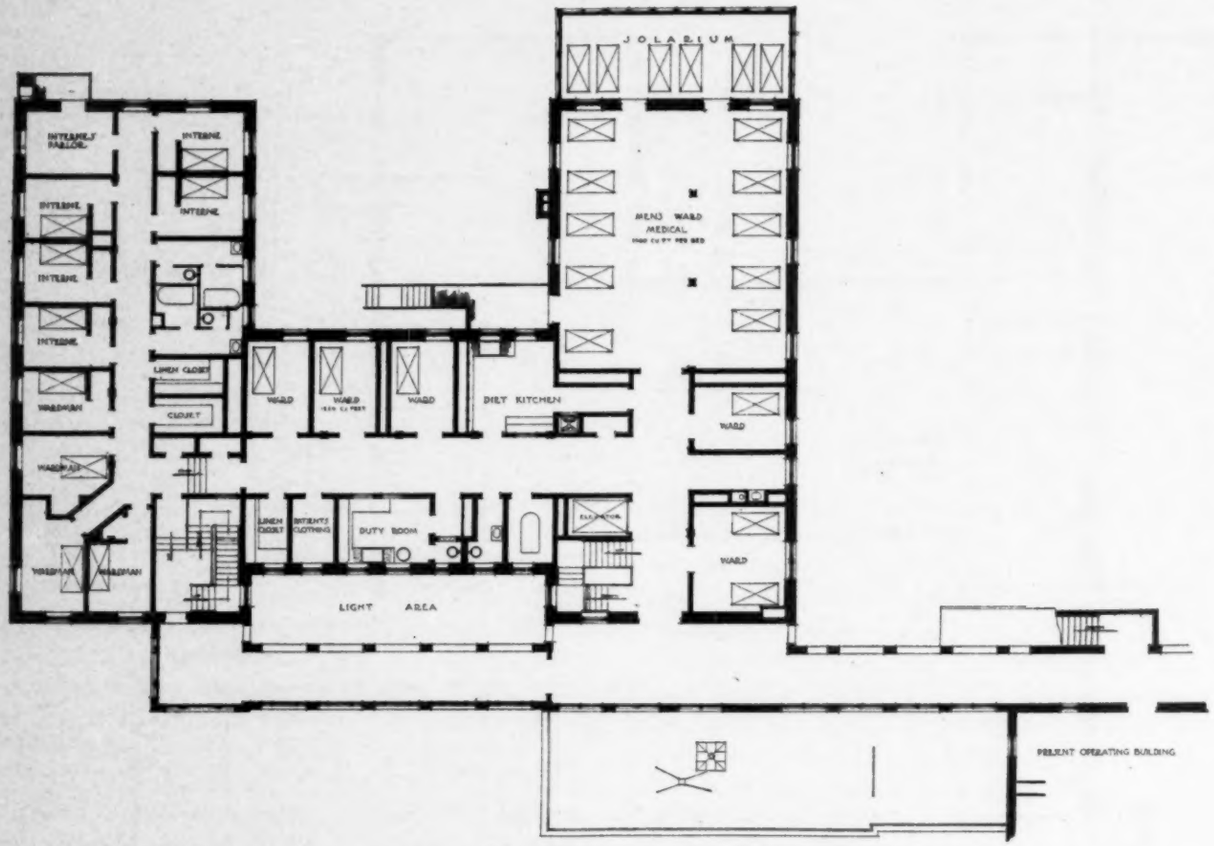

Fig. 5. Cambridge Hospital. Second floor plan.

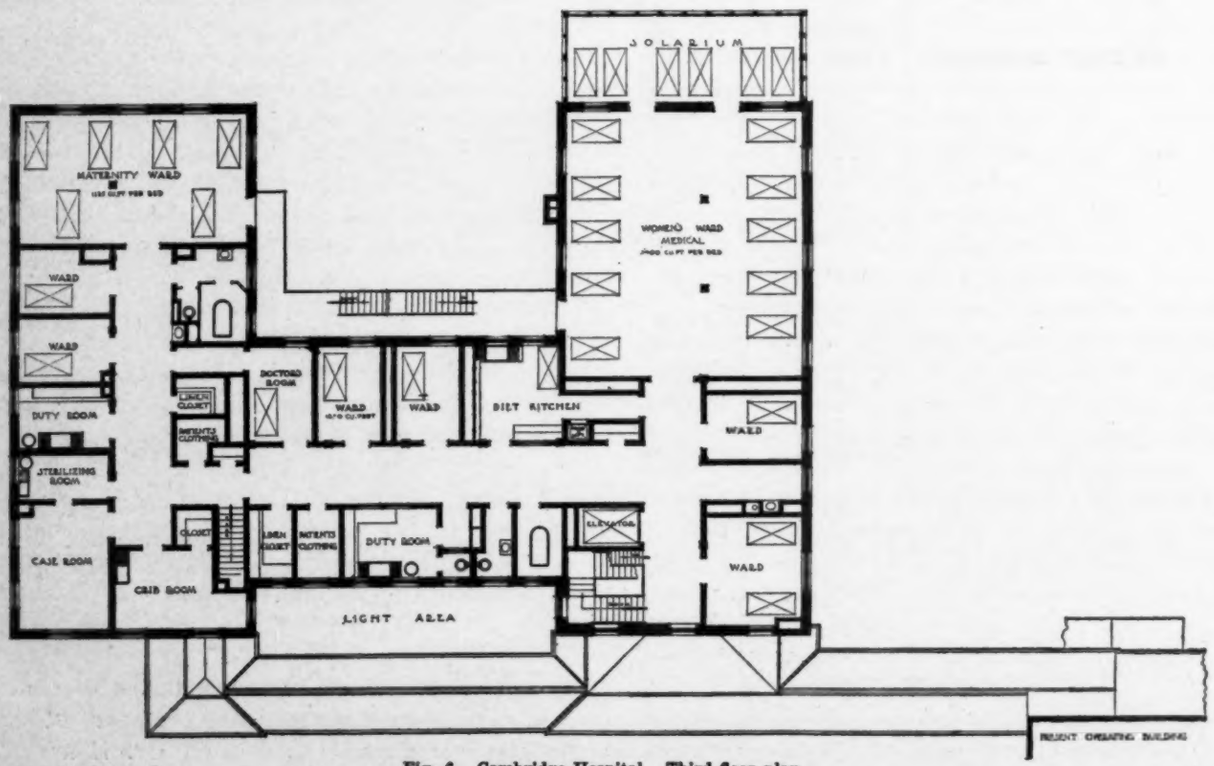

Fig. 6. Cambridge Hospital. Third floor plan.

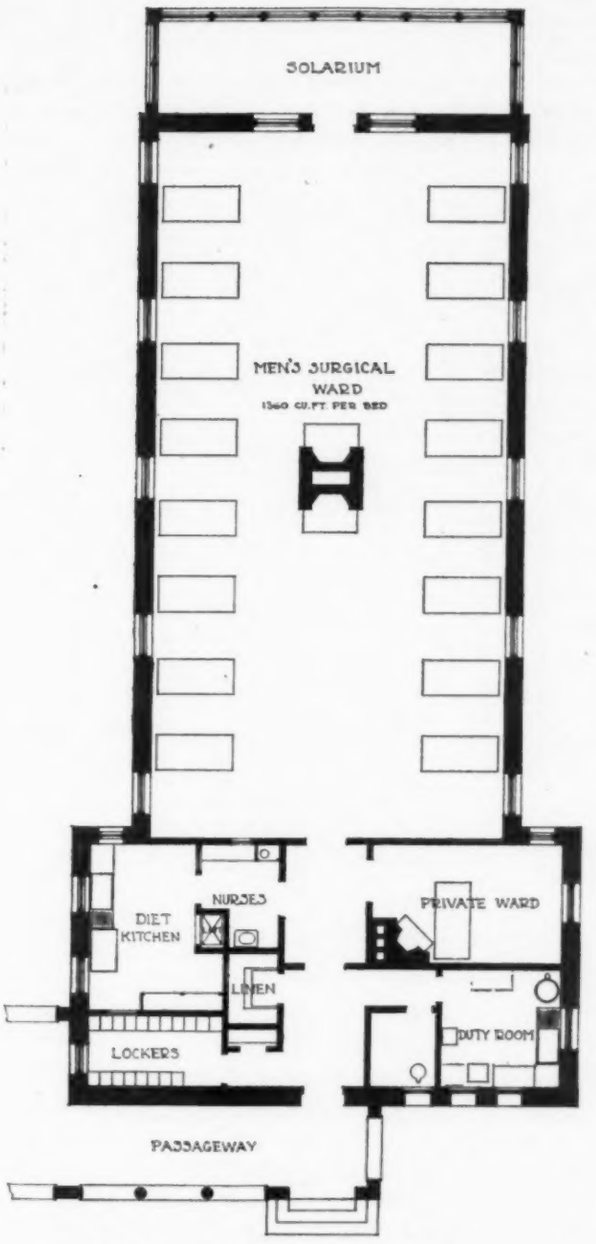

Fig. 7. Cambridge Hospital. Roof plan.

Walcott has been president. Dr. Walcott has been a trustee since 1874, and, though burdened with many other important and responsible duties, has devoted much time and thought to the needs of the hospital.

The medical staff of the hospital is composed of four visiting physicians, who serve three months each in rotation. The surgical staff consists of three visiting surgeons and three assistant surgeons, each of whom is on duty four months each year. There is also an out-patient department of six physicians and special consulting physicians for diseases of the ear, throat, eye, nervous system, and orthopedics.

The hospital maintains a training school for nurses. The course offered covers a period of three years, and consists of lectures, demonstrations, and recitations, with examinations in each subject, besides the usual routine training in the wards. During the third year the pupil nurses have the opportunity to act as head nurses. They receive special training in obstetrics and have a two months' service with the Cambridge Visiting Nursing Association. It is planned also to give the senior nurses some insight into social service work.

The Cambridge Hospital League is the woman's auxiliary to the hospital, and consists of three departments. The financial department raises all funds necessary for salaries, etc., in the social service work, thus relieving the hospital trustees of the support of that important portion of modern hospital work. The Woman's Aid Association supplies linen for the hospital beds, and furnishes the patients with extra comforts. Members of the association make regular inspections of the hospital and visit the patients. The department of social service is the chief branch of the league, and the work is carried on by a trained social worker, aided by an assistant and a number of volunteer workers. It is directed by an advisory committee, composed of representatives of the staff of the league and of several philanthropic agencies outside of the hospital. This department adds greatly to the efficiency of the hospital by the investigation of the social factors in the causation and prevention of disease, and by its advice and help to individual patients who need more than medical or surgical treatment.

A corporation has recently been formed at Lake Charles, La., for the purpose of establishing a hospital for negroes. Drs. Geo. S. Price, M. J. Marmillion, and W. C. Hayes are members of the advisory committee.

In general, it is advisable to limit the number of patients for a hospital, and rather to establish several medium-sized hospitals at different places than to centralize too much.—Max Rubner.

The cornerstone of a new hospital for tropical diseases, the first institution of its kind to be established in the tropical portion of the British empire, was laid at Calcutta a short time ago. The hospital is said to have been generously endowed by wealthy Hindus and also to have received support from commercial circles and from the Rockefeller Foundation.

Simplicity of construction, involving, as it should always, a provision of abundant light and ventilation through every part of the hospital in which sick are placed, can be secured in hospitals of any size only by separating the administrative part from the sick part. The smallest country hospital should consist of at least two blocks of building.—Florence Nightingale.

SOME CONVENIENT ACCESSORIES FOR ROENTGENOTHERAPY

The Therapy Flasher—The Water-Cooled Tube—Water Circulating Pump—Sealed Water Cap—The Coolidge Tube—Tube Stand—Treatment Records—Protection for the Operator—Some Technical Requisites for Good Work

By E. BLAINE, M. D., Roentgenologist Cook County Hospital, Chicago

A SINGLE x-ray treatment, given for a superficial lesion with the ordinary gas tube of from 3- to 4-inch resistance for the usual 15- or 20-milliampere minute exposure, presents but few difficulties to the roentgenologist. The average well-seasoned x-ray tube will remain fairly constant under this relatively small amount of energizing, but at the end of such a treatment the quality of x-ray delivered will have become somewhat less hard, due to a partial loss in vacuum through the heating of the metal and glass walls of the tube, with a consequent freeing of gas residual in these parts, than it was at the beginning of the exposure. But when multiple areas or many patients are to be treated in rapid succession, and when "massive doses" in deep therapy are to be administered, our problem becomes more complicated.

Very few tubes will remain constant under the accumulated heat of many minutes of continuous exposure. Greater amounts of current are necessary to produce x-ray of sufficient penetration and amount to be of value in reaching the deeper tissues of the body. In order to keep the tube constant in x-ray output under these high pressure conditions, it is necessary to adopt measures to keep it from losing its vacuum and to preserve as much as possible the proper degree of resistance. It has been found that when the tube current is periodically interrupted even for a moment, it will remain more constant for a considerably greater length of time and at a higher degree of penetration than when a continuous exposure is made, and that more amperage can be obtained with less heating of the tube through such interruptions.

THERAPY FLASHER

At the Cook County Hospital this was accomplished in a large measure by placing in the primary circuit of the generating apparatus a so-called "therapy flasher." The instrument rhythmically makes and breaks the tube current so that it is flashed on and off at certain intervals. This flasher has proved to be very practical and efficient in keeping a single tube stable enough to permit the administration of many average 15- to 20-milliampere minute doses in rapid succession. Our experience is similar to that of Skinner, who writes regarding it: "We thought the instrument would increase the time of our therapy cases, but, on the contrary, find that it lessens the amount of time necessary to hold a patient on the table because we are able to give four to five times the amount of milliamperage through the tube than we formally did. . . . Several of our tubes permit us to pass 4 to 5 milliamperes for ten minutes with a one-third on two-thirds off interval, which gives us practically 40 to 50 milliampere minutes in that time. Furthermore, our tubes hold the same degree of vacuum or penetration through the entire treatment.

The apparatus consists of a motor-driven rotating switch, which operates in oil to prevent arcing, the speed of the motor being regulated by a small rheostat, the current supply being the ordinary house current. There are three different flashing intervals possible with the instrument, a switch being provided for (a) on one-half and off one-half period, (b) on one-third and off two-thirds period, (c) on two-thirds and off one-third period. By varying the speed of the motor any desired length of flash up to one second may be obtained. The interval used governs the length of treatment—thus an elapsed time of fifteen minutes with one-third on two-thirds off will give an interval exposure of five minutes, with one-half on one-half off will equal seven and one-half minutes of exposure, and with two-thirds on one-third off it will be ten minutes. This form of interrupted x-ray exposure is in considerable use in the European clinics using massive doses. A so-called "rythmeur" is used, which is similar to the "flasher." Many American roentgenologists have been using the ordinary gas tube for therapy almost entirely up to the past year. For those who still prefer to use this tube a combination with a therapy flasher will result in obtaining far better therapeutic x-ray because the tube will remain constant for a much longer time.

WATER-COOLED TUBES

In the Freiburg and other European clinics massive doses are given in abdominal lesions, such as fibroids, myomas, etc., in some instances more than 300 x-units being given in one series and at times more than a total of 1,500 x-units to a single patient in repeated cycles. In addition to the use of the "rythmeur," they make use of water-cooled tubes, as such tubes can be energized more intensely for a longer exposure period with less

change in vacuum than the nonwater-cooled tube. But even such tubes will not remain stable long enough to give a complete series of massive doses, on account of the great heat generated, which results in a loss in vacuum, and therapeutic value is destroyed when the tube becomes "blue." To offset this loss in usefulness, they "relay" their tubes. An attendant cools off an alternate tube with which to replace the one in use when it becomes too hot. This is done by using a gallon water bottle, such as is used in irrigations, which has a rubber tube attached to the outlet in the lower part of the bottle; the opposite end of the rubber tube is inserted in the water reservoir of the x-tube. The bottle is alternately raised and lowered, the action of the siphonage withdrawing the heated water into the bottle, mixing it with cold water. It is then raised, causing the water of cooler temperature to flow back into the reservoir of the tube. This cools off the tube for a succeeding relay. In a large clinic this necessitates having a large supply of tubes constantly on hand, a very considerable item of laboratory expense. Gauss and Lembke in their book "Roentgentiefentherapie" speak of having fifty tubes on hand. This number of water-cooled tubes at the price of $50 each would represent an investment of $2,500, almost an impossibility in any American x-ray laboratory, where hospital managers will scarcely allow that sum for the entire equipment of the department.

WATER CIRCULATING PUMP

On account of the continued increase in the number of x-ray treatments in Cook County Hospital (some days 26 to 30 patients receive treatment), it was determined to use water-cooled tubes. We found that these tubes would permit us to give almost as much x-ray without the use of the interrupted exposures as we did with the nonwater-cooled tubes and flasher. If we could give continuous exposures, it would enable us to treat a larger number of patients in an equal amount of time—a very desirable item—but under intensive driving the point of boiling was reached too soon. In order to prevent the water from boiling and the consequent loss in vacuum, a circulating pump was used. It was of the piston or plunger type, driven by a small motor and connected to the x-tube by means of two flexible rubber tubes, one for the flow of water to and the other for the return from the anode.

This pump was found to have several drawbacks. The character of the circulating stream with this plunger pump was a pulsating, intermittent one, and did not carry the heat off as fast as was required to keep the tube steady, and a leakage of water around the piston made a possible path for the current to ground. For these reasons this form of pump was discarded for one of the centrifugal type, because the stream is continuous, even, and steady. The rotating blades are immersed deep in a glass jar of about ten gallons capacity, and thus all possibility of leaks is eliminated. The pump is mounted on a shelf above the level of the tube, the shelf being thoroughly insulated to prevent the high tension current from reaching the low tension wiring which carries the current to the motor of the pump. This water circulating pump has enabled us to use a certain tube for more than six months without once removing it from the tube holder. This tube was used in treating an average of 15 patients per afternoon, each treatment following rapidly on the other as fast as patients could be changed. The treatments varied from three to six, sometimes ten, minutes in length, the tube remaining constant at from 5- to 6-inch resistance at 3 to 5 milliamperes. The tube did not require stopping to permit cooling. During actual use the vacuum was found to increase in resistance instead of the usual decrease, so that the reducer had to be used to prevent its becoming too high.

SEALED WATER CAP

The metal cap on the water chamber of the tube is usually water-tight under ordinary conditions. With the use of the water circulating pump, however, the pressure exerted causes this cap to leak, the water constantly working by the threads of the cap and running down the outside of the tube, often dropping on the patient. Many forms of washers and gaskets were tried to check this leak, but with no success. Finally it was decided to seal the cap, and we found no real need of having it removable. The sealing was done with litharge, and now we have no more leaks with which to contend. With the use of the pump and the sealing of the metal cap as described, the tube can be used in any position, even upside down, without leaking, although it is of greatest importance in this position that no bubble of air be present. An air bubble would rise to the highest point, which, if the tube is inverted, would be directly behind the anode, the result of which would be a ruined tube through the puncturing of the thin metal anode by the cathode stream.

TUBE RESERVOIR

The bulb-shaped water reservoir, common to the water-cooled tube, is large and at times in the way in the usual lead glass bowl. This chamber was found to be unnecessary with the water circulating pump, the ten-gallon tank taking the

place of the reservoir on the tube; so the tube maker changed the design of our tubes by removing this bulbous portion, which makes the tube easier to handle and much less bulky.

THE COOLIDGE TUBE

The greatest single addition to roentgen armamentarium in recent years is the development and introduction of the "ion" or Coolidge tube. This tube is especially valuable in therapeutical work where intensive dosages are to be given, as it is capable of delivering x-rays of a penetration far in excess of those obtainable with the ordinary gas tube.

Roentgenologists who have used the Coolidge tube are unanimous in agreeing that this is the tube "par excellence" for x-ray therapy. It is possible with this tube to duplicate today the treatment of yesterday with great accuracy. It has been found that with duplicate setting of apparatus—e.g., spark gap, target-skin distance, filter and rheostat position—doses identical in quantity and quality are obtained in an equal time of exposure. Its particular advantage lies in its ability to remain constant at any predetermined spark gap resistance, the quality of x-ray delivered being the same throughout the treatment. Three Coolidge tubes have been in constant use in Cook County Hospital for more than one year without the least evidence of change or deterioration. For deep therapy the formula in present use is approximately a 9-inch spark gap, between 5 and 6 milliamperes at 7-inch target-skin distance for four minutes of exposure, through a filter consisting of 4 mm. of aluminum and sole leather.

In treating abdominal and pelvic lesions, multiple areas are exposed, as many as twenty-four being given by the cross-fire method. It is found to be convenient to give six areas at one sitting, dividing the series into four consecutive days. For superficial lesions, such as epitheliomas, the spark gap is approximately 5 inches, 9 to 10 milliamperes, one minute exposure through 1 millimeter of aluminum. As long as the cathode temperature remains constant, the resistance of the tube is practically unchanged, regardless of the heat of the target or the walls of the tube. The target becomes quite hot under this amount of energizing—always a cause for wonder to those accustomed to the gas tube who view the Coolidge tube in action for the first time. No fan, blower, or other cooling device is used with this intensive driving, without the slightest impairment of its action. In some laboratories an electric blower is used to keep the walls of the tube from becoming too hot, but we have not found it necessary to employ such cooling.

TUBE STAND

The tube holder used is an open treatment tube stand, which permits a minimum target to skin distance of 5 inches. (In the technic employed in this laboratory the target distance is 7 inches.) A tube stand arranged for swiveling the tube and bowl 45 degrees each side of the usual position is a decided convenience. This permits rotating the tube so that the terminals will not be too close to the patient's skin when it is tilted in cross-firing. It also allows greater ease in setting the tube in treatments of the neck and other places difficult to approach.

Treatment tube stands which are inclosed in a lead-lined box, the sides of which closely approach the tube, are very liable to permit puncturing when a 9-inch spark gap is used. The tube is not entirely protected, as there is an escape of x-ray at the ends of the tube. A thoroughly protected tube will necessarily require a box of large dimensions, such as is used on roentgenoscopic apparatus, and this would be too large to handle conveniently in therapeutical work.

A 10-K. V. A. interrupterless transformer, open core, is used to obtain the 9-inch spark gap, and is in constant daily use, running continuously for hours at a time. The Coolidge filament circuit is energized by a small transformer especially designed to give the required amount of amperage. This is provided with a convenient control, which enables the operator to regulate its intensity so that any desired spark gap may be obtained. All the controls for the apparatus and tube—the starting switches, rheostat, spark gap indicator, vacuum reducer (for gas tubes), Coolidge current regulator, meters, etc., are placed in a lead-lined operating booth, which affords proper protection to the operator.

An overhead system of four wires with self-winding trolleys is a convenience in x-ray therapy. The wires are out of the way and the tube can easily be connected. Two of the overhead wires are for the Coolidge tube current. The wire used on the two trolleys which carry the cathode current must be of copper, as the ordinary tinsel cord will not carry this low-tension current. The main spark gap can be removed from the transformer and mounted at the farther end of the overhead wires, making it convenient to measure as well as to see the actual resistance of the tube at any moment. With the transformer in another room it is difficult to find the spark gap resistance of the tube in use.

The output of the tube is measured and standardized by photometric quantimeter. Many treatments have been measured and recorded and found to be invariably the same on each succeeding test.

This being the case, it will be seen that it becomes less necessary to actually measure each individual dose administered, provided the formula of the tube regulation and time of exposure be accurately observed. This is of interest in view of the difficulty in obtaining photometric strips due to conditions in Europe; thus we note another valuable feature of this wonderful tube—the security in knowing exactly how much x-ray is being given in each treatment, an impossibility with the gas tube. The x-ray output at different settings of the tube for various lengths of exposure and under several thicknesses of aluminum has been carefully noted. It is found that 1 x-unit is given in 1 milliampere minute through 4 millimeters of aluminum at 9-inch tube resistance, 7-inch target-skin distance. Knowing this, we can govern the amount of x-ray given to each area by varying the time of exposure. Thus 10x is delivered in two minutes at 5 milliamperes, 20x in 4 minutes, etc.

TREATMENT RECORDS

It is important that accurate records be kept of each treatment given. This will enable the observer to make comparisons between the different cases and provide a valuable reference, as well as data for his own protection in medicolegal complications. The record should show, in addition to the regular items of name, disease, etc., the exact area or areas treated, number of minutes of exposure, milliamperage spark-gap, target-skin distance, filter used, and number of x-units or other measure given. It is well to note that 4 Hampson, 5 Holzknecht, tint "B" SN (Saboroud & Noire), and 10x (Kienboeck) are equal amounts of x-ray dosage, these figures representing on respective scales the average normal dose which will result in a mild erythema of the skin of the area exposed.

The form given below has been found to cover the requirements in x-ray therapy.

On the reverse side of this form an anatomical outline is stamped on which is indicated the exact area treated, an anterior and posterior figure being used.

PROTECTION

The use of the Coolidge tube in giving massive doses of high penetration makes it imperative to carefully protect the skin of all parts of the body, excepting the area under treatment. This is an inconvenience both to roentgenologist and patient; the former often finds it most difficult to arrange the protecting medium in such a manner as not to interfere with the working of the tube, the latter having to bear the weight of heavy lead sheeting. Of the material used, the ordinary x-ray foil does not protect the skin from high penetrating rays given by a tube of 9-inch resistance. A plate placed under this material can easily be fogged by direct rays. The so-called x-ray proof rubber cloth of which our protective aprons are made is also penetrated by these high rays.

The best protection against the primary ray is sheet lead of a thickness of at least $^1/_{20}$ inch. Secondary rays can be only completely overcome by surrounding the body on six sides. The weight of large sheets of lead is very inconvenient to handle in covering the patient, and the latter certainly is not comfortable when two or three large pieces are laid over abdomen and other parts of the body. These difficulties may be lessened by the use of an adjustable bed table, such as is used in the sick room, on the top of which is fastened a sheet of $^1/_{20}$-inch lead about 24 by 30 inches. Two such tables are used, one for the side of the tube toward the patient's feet and the other on the side toward the head. By tilting the lead-covered top, all direct rays are cut off. When multiple areas are to be treated in cross-firing at deep-seated lesions, a sheet of lead large enough to cover the entire abdomen is used. This piece of lead has twelve 2x2 holes cut in it, these being arranged in three rows of four openings, representing the twelve areas to be treated. The upper border of the top row is placed directly over the umbilicus; the median line of the patient's body being the vertical line for the middle of the sheet. Over the opening to be treated is placed the single opening of a rectangular piece of lead, which covers all the other openings and which, in order to keep as

COOK COUNTY HOSPITAL—X-RAY DEPARTMENT

Name.....M. F. Age.....Weight.....Ward.....Bl-Br. .....

Address.....

Treatment for.....Part.....Diagnosis { Clinical / Microsc.

Remarks.....

	Date	Area treated	Min.	Sp. gap	M. amp.	Tar. skin	Filter	Meas.	
1									
2									
3									
4									
5									

The form is 11 inches long by 8½ inches wide and has lines for each day of the month.

much weight as possible off the patient, is held in the jaws of an ordinary tube holder. This opening is shifted to each successive area to be treated. The particular value of this arrangement lies in the automatic marking of the areas to be treated and the protection against overlapping, the lead between each opening covering a small strip of skin which gets no x-ray. This same sheet is also used on the posterior surface of the body. Each opening is numbered consecutively, and the order of treatment proceeds in numerical progression to avoid error. In treating such areas as the neck and submaxillary region, one's ingenuity is often put to the test in arranging the protection and the tube in such a manner as to get the proper target-skin distance without having the tube ends come too close to the body. But by using great care, one is able to avoid "overlapping," which will, when massive doses are given, most often result in an undesired skin reaction.

In conclusion, the essayist ventures to hope that the various items noted may prove helpful to others engaged in the daily application of this form of energy, which has been proved to be of much therapeutical value when properly applied, and that they do not forget that, while potent for much good, it is also capable of doing much harm.

COFFEE SUBSTITUTES AND HYGIENIC COFFEES

The Former Practice of Adulterating Coffee Now Almost Obsolete, But Attempts to Remove So-called Harmful Elements Only Partially Successful—Some Analyses of Value, With Interpretation for the Clinician

By JOHN PHILLIPS STREET, Chemist Connecticut Agricultural Experiment Station

MILLIONS of pounds of coffee are imported into this country each year. Its popularity as a beverage is unquestioned, and its constantly increasing use has presented the problem of its effect on the human organism. The ingredients of coffee, to which have been attributed harmful results, are its volatile oil caffeol, its tannin caffetanic acid, and its alkaloid caffeine. Various manufacturers have emphasized the harmful effects of one or the other of these ingredients, depending generally on its absence from the particular commodity which they wished to market. Consequently we have "vacuum," "detannated," and "caffeine-free" coffees, for which the partial or complete removal of caffeol, caffetannic acid, or caffeine, respectively, is claimed. The fact that these preparations make certain definite hygienic claims renders them a subject for consideration by the dietitian, and the claim that eleven millions of pounds of coffee are used annually in our hospitals alone gives the problem more than passing interest.

As is well known, the coffee bean before use must be roasted. The roasting process drives off most of the water, caramelizes a part of the sugar, and develops the caffeol, to which the peculiar flavor and aroma of coffee are due. The following average analysis of Santos, Porto Rico, Rio, Mocha, and Java coffees by Lythgoe shows well the composition of roasted coffees:

Water	2.16	Petroleum ether extract	13.75
Ash	4.03	Cold water extract	22.63
Ash, water-soluble	3.26	Alcohol extract	17.03
Phosphoric acid	0.61	Total nitrogen	2.27
Reducing sugars	0.75	Caffeine	1.20
Crude starch	2.30	Alkalinity of ash[1]	3.55
Fiber	13.03	Solids in 10% extract	2.72
		Ash in 10% extract	0.37

Caffetannic acid, which was not determined by Lythgoe, generally occurs to the extent of from 10 to 12 percent.

Until recent years coffee, especially in the ground condition, has been a fertile field for the food adulterator. In ground coffee have been found peas, beans, wheat, rye, oats, chicory, brown bread, charcoal, canna seed, sawdust, boiled liver, slate, various barks, and dried pellets, the latter consisting of ground peas and cereals bound together with molasses. Whole coffee has been adulterated with chicory and the pellets referred to above, and artificial beans have been found which closely resembled the genuine bean in appearance even to the cleft in the sides.

Raw coffee beans have also been found treated in a way similar to the facing of tea leaves, with the intent of giving a superior appearance to cheap and inferior grades, various pigments having been employed for the purpose. Glazing has also been resorted to, the beans being dipped in egg or sugar, or both. A claim made in favor of this practice is that it improves the keeping qualities of the coffee and aids in clarifying the infusion. It would appear, however, that in many cases the purpose was to deceive the consumer by an appearance of superiority.

In spite of the above long list of coffee adul-

[1] 1 cc. $\frac{N}{10}$ acid per gram of coffee.

terants, it is only fair to state that at least in this state (Connecticut) the adulteration of even ground coffee is largely a thing of the past. The sale of pure coffees of low quality, however, for the high-grade article of course still persists.

COFFEE SUBSTITUTES

Because of the alleged injurious effects of habitual coffee drinking, various substitutes have been offered, which yield a beverage more or less similar in appearance to coffee, and in a few rare instances a coffee-like flavor. Some of these substitutes have been found to be glaringly dishonest, as coffee still remained as one of their important constituents; in others, however, coffee is entirely absent, and the integrity of their claims as to composition is beyond question. Among such substitutes may be mentioned Mogdad coffee (the seeds of *Cassia occidentalis*) and Mussaenda coffee (the seeds of *Gaertnera vaginata*), neither of which contains caffeine. These, however, have never enjoyed wide popularity in this country. More generally used substitutes are chicory, acorns, figs, date stones, dried pears, dandelion roots, grape seeds, legumes, and various cereal preparations, with or without molasses.

The following are some of the best known coffee substitutes sold in this country:

Old Grist Mill Entire Wheat Coffee (roasted wheat product).

Ayer's Hygienic Substitute for Coffee, New Era Improved Hygienic Coffee, Shredded Cereal Coffee, and Clark's Phosphi Cereal Nervine Coffee (all chiefly roasted cereals, with no coffee).

Date Stone Coffee (date stones ground and roasted).

Fischer Mills Fresh Roasted Malt Coffee and Kneipp Malt Coffee (whole barley kernels roasted).

Postum Cereal and Grain-O (roasted cereals and molasses).

Hayward's French Breakfast Coffee Compound (chiefly roasted ground peas and cereals).

Johan Hoff's Malt Coffee (malt and chicory).

Johnson's Educator Substitute for Coffee (roasted cereals).

Instant Postum (wheat and molasses).

Kaffeebrod (roasted cereals).

Minute Brew and Caramel Cereal (wheat product).

Dieto Barley Coffee (roasted barley).

Monco (roasted cereals and vegetables).

Fitch's Grains of Health (roasted peas, with a small amount of coffee).

Bonano (dried bananas).

The analyses of some of these brands are given in the table below, all of the analyses having been made in this laboratory. The writer has at hand no analysis of the much-advertised Postum Cereal. This preparation, however, has been frequently reported as free from coffee; according to the manufacturers, Instant Postum is simply Postum Cereal concentrated and with nothing added.

None of the brands in the table contains coffee.

HYGIENIC COFFEES

In spite of the claims of the manufacturers, most of the coffee substitutes are at best but poor imitations of coffee to the palate of the coffee lover. Accordingly the attempt has been made by certain manufacturers to offer genuine coffee treated by various processes whereby the objectionable ingredients have been more or less eliminated. The claims made for a very few of these products are entirely honest, while for others false and exaggerated claims predominate. These products are chiefly of three kinds—those which have been subjected to processes by which it is claimed that either caffeol, the caffetannic acid, or the caffeine has been eliminated. In two brands at least the claim is made that all, or nearly all, of both the caffetannic acid and the caffeine have been removed. The following well-known brands belong to this class of coffees:

Digesto Coffee ("contains no caffeine or tannin").

De-tan-ated Brand Coffee, later Puri-tan-ated Coffee ("tannic acid entirely eliminated").

Royal Dutch Coffee ("prepared by the Beach process, which removes by steam, before roasting, the tannic acid").

Granger's Fairy Cup Instant Soluble Coffee ("nearly all the caffeine and tannic acid is discarded").

Hanley & Kinsella's Vacuum Packed Coffee (specific claims unknown, but the use of the word "vacuum" is suggestive).

Kaffee Hag ("95 percent of the caffeine removed").

G. Washington Prepared Coffee, Crystal ("refined," "the coffee berry contains antidigestive, deleterious substances, which are not essentials of the true coffee when refined. . . . Mr. Washington's refining process eliminates these harmful, indigestible substances").

Café des Invalides ("does not produce nervousness or wakefulness").

Richelieu Brand Vacuum Improved Coffee ("subjected before roasting to the Evers vacuum process." The manufacturer claims that caffeine is not a harmful ingredient, although the original patentee of the Evers process claimed

Brand	Water	Protein	Fiber	Nitrogen-free extract	Fat	Ash	Starch
Date Stone Coffee (1897)	5.52	6.69	15.84	59.00	11.20	1.75	....*
Educator Cereal Coffee (1911)	5.58	16.25	8.70	65.05	1.88	2.54	42.57
Instant Postum (1913)	5.56	6.13	0.09	76.78	0.06	11.38	....*
Kaffeebrod (1913)	4.50	12.90	6.40	72.50	1.50	2.20	10.10
Bonano (1913)	8.94	4.08	3.83	79.59	0.44	3.12	24.83
Dieto Barley Coffee (1914)	3.42	13.19	9.14	63.87	7.30	3.08	17.72
Minute Brew (1915)	6.98	13.31	6.81	66.04	1.18	5.68	....*
Caramel Cereal (1915)	5.04	16.19	12.60	58.95	2.29	4.93	....*
Monco (1915)	5.90	13.75	7.43	68.96	1.74	2.22	....*

*Not determined.

that it eliminated the caffeine. The present claim, however, emphasizes the removal of "coffeotoxins," among which is included caffeol).

The first three brands in this list were examined in this laboratory by Shanley in 1907, the Granger brand by the United States government, the Hanley & Kinsella brand by the Kansas Board of Health, and the remaining brands by Bailey and Shepard in the writer's laboratory during the last few months. The analyses are given in the following table, together with the analysis of a sample of commercial Java coffee as found in the Connecticut market.

	Caffeine	Caffetannic Acid
Digesto	1.11	9.45
De-tan-ated (Puri-tan-ated)	1.14	9.89
Royal Dutch	1.12	9.96
Granger's Fairy Cup	4.48	45.48
Hanley & Kinsella	0.93	.....[1]
Kaffee Hag	0.03	11.47
G. Washington	4.96	48.04
Café des Invalides	0.97	11.56
Richelieu Vacuum Improved	1.15	11.82
Java (commercial)	1.20	11.37

The writer will not attempt to discuss the physiological effects of coffee drinking, or express an opinion as to the relative harmfulness of caffeol, caffetannic acid, and caffeine. The analyses are presented here simply for the purpose of showing the amount of credence to be given the claims of the various manufacturers.

The analyses of the Digesto, De-tan-ated, and Royal Dutch coffees were made in 1907, and the writer is ignorant as to whether they are on the market at present. They are typical, however, of the "detannated" coffees. The method used by Shanley for determining caffetannic acid gave 9.51, 9.96, and 9.47 percent for Java, Mocha, and Rio, respectively, showing that the three brands in question contained quite as much tannic acid as ordinary coffee.

Granger's Fairy Cup Instant Soluble Coffee, in which "nearly all the caffeine and tannic acid is discarded," contains 4.48 and 45.48 percent, respectively, of these ingredients, or about four times as much as found in ordinary coffee.

Hanley & Kinsella's Vacuum Coffee shows only a little less caffeine than ordinary coffee.

The claim of Kaffee Hag that 95 percent of the caffeine is removed is shown to be correct, only 0.03 percent of the alkaloid being present.

G. Washington Prepared Coffee, in spite of its "refining process" which "eliminates these harmful, indigestible substances," contains 4.96 percent caffeine and 48.04 percent caffetannic acid, about four times the amounts found in commercial coffees.

Café des Invalides, claimed not to "produce nervousness or wakefulness," contains about four-fifths of the caffeine found in ordinary coffee and quite as much caffetannic acid. The reduction in caffeine is due chiefly to the presence of 20 percent of chicory and other vegetable matter.

Richelieu Vacuum Coffee shows no essential difference from ordinary coffee in its content of either caffeine or caffetannic acid. Caffeol, which the inventor of the process claims to be so toxic that even the fumes from brewing coffee cause certain people to have headache, nervous trembling, and insomnia, occurs in coffee, according to Erdmann, to the extent of only 0.056 percent. A cup of coffee, made from 5 grams of pulverized coffee, would contain only from 0.0007 to 0.0010 gram of this poison, so that, if the inventor's statements are to be believed, coffee contains a poison equal to strychnine for deadliness. This claim as to the poisonous effect of caffeol is a talking point rather than a statement of scientific fact. The Evers process originally claimed to remove the caffeine, a claim which our analysis totally disproves.

[1]Not determined.

Chicago Roof Tanks Under Investigation

The Department of Health of Chicago has recently completed an investigation of the roof tanks used in furnishing domestic water in that city, and some rather impressive discoveries were made.

In a certain district the water supply was threatened by a pollution which occurred at the Sixty-eighth street pumping station. In this connection it was suggested that many of the roof tanks had not been cleaned, some of them for years, and that these might still continue to be a source of danger. It was, therefore, determined to make a careful examination of all roof tanks in that district and order that all tanks be emptied and thoroughly cleaned.

In carrying out this work the district was divided into eighty-eight sub-districts, each one-half mile square. Forty-five of these districts were found to be without tanks. In the other thirty-three districts there were 374 tanks examined and cleaned. The canvass was made by a cooperative effort on the part of the Department of Health and the Water Pipe Extension Bureau; there being 21 inspectors from the Water Pipe Extension Bureau, who put in a total of 120 days' time; 14 food inspectors, 39 days; and 49 sanitary inspectors, with a total of 59 days, making a grand total of 220 days' time spent by all of the departments in the canvas.

In some of the roof tanks there were four or five inches of sediment, soot, sand, and an indiscriminate mass of filth. Some of the contents were long since beyond the putrefactive stage, but bore evidences of having once been solid matter in small particles. The Department of Health is to continue the tank inspections until the whole city is covered.

Dr. S. W. Pryor, Chester, S. C., is arranging to rebuild his private hospital, which was burned March 20. The new building will be a modern, fireproof structure costing about $40,000 and having a capacity of 25 beds.

The Cipes Sanatorium, Albuquerque, N. M., is being enlarged by the erection of a ten-room addition.

ARCHITECTURE OF A. D. PRICE MEMORIAL HOSPITAL, HARRODSBURG, KY.

A New Fifteen-Bed Hospital of Remarkably Low Cost and Capable of Almost Indefinite Enlargement—Flexibility of First Floor Arrangement to Permit Varied Use —Some of the Figures of Cost

By H. E. HANNAFORD, of Samuel Hannaford & Sons, Architects, Cincinnati, Ohio

THE A. D. Price Memorial Hospital is a privately owned institution, maintained and operated for the benefit of the sick of Harrodsburg and Mercer county. It has been realized for the past two years that the present hospital was entirely too small to accommodate the necessary number of patients. The ladies of Harrodsburg, seeing this need, therefore organized a hospital board and began an agitation for a new institution that would be modern in its structure and equipment, and efficient in its organization and management. They were untiring in their efforts to give to the city of Harrodsburg an institution of the highest class possible.

The building of the new hospital was placed in the hands of a building committee appointed by Mrs. Lafon Riker, president of the hospital board, and which consists of Mrs. D. Praigg Van Arsdall, chairman; Mrs. Warren Allen, Mr. James L. Isenberg, Mr. Bush W. Allen, Mrs. Frank P. McGarvey, secretary. Samuel Hannaford & Sons, of Cincinnati, were the architects and Cal. F. Thomas & Co., of Louisville, the contractors.

Fig. 1. A. D. Price Memorial Hospital.

The site for the new building is in the western part of the city on an elevated plot of ground, with beautiful trees and shrubbery in the rear. The building has been planned in a way to take care of future expansion. The exterior is very simple and plain, and clearly indicates its purpose. Good construction has been employed throughout. The foundation is of Kentucky limestone, thoroughly waterproofed, so that the basement is absolutely dry.

The exterior walls are finished with pure white "Stonekote" placed on metal lath. The roof is covered with a Washington red cedar shingle stained a light green. The details of the interior finish have been carefully studied, and everything has been done to make the building as cleanable and as nearly aseptic as possible. The floors throughout, except operating room, are rift-sawed yellow pine. The operating room floor is a nonabsorbent tile floor. The plumbing fixtures are all of special hospital design. Heating is furnished by means of the latest type of hot water system. Direct radiation is used in each room.

In the basement is located the boiler room, coal storage room, and laundry. The floors in basement are constructed of concrete. The first floor is taken up with office, examination room, two nurses' bed rooms, superintendent's bed room (which could be used as a general ward in an emergency), kitchen, dining room, isolation ward, colored ward, and bath and toilet rooms.

The central corridor contains the stairs leading to the second floor. On the second floor, in the center of the building, is located the operating room. This room is provided with steel sash in order to secure as much light as possible. The latest type of sink and surgeon's lavatory are provided, with knee-action valve. Directly over the operating table there is a 330-watt operating lamp fixture.

There are five private wards on the second floor and two general wards, with three beds each for male and female. There is also provided in connection with the operating room an anesthesia and recovery room. These two rooms can be used as private wards in emergency cases. There are also on the second floor two bath and toilet rooms and the necessary linen closets.

The entire building is provided with intercommunicating telephones, bells, and signal system. Elevator and dumbwaiter are also installed.

There are many features of construction and equipment worthy of notice that cannot be described in an article as brief as this, such as little conveniences in the arrangement of the kitchens, location of help's toilet in the basement, hinged porch rails to facilitate handling of incoming sick and outgoing dead, special wall plugs for individual beds, etc.

It would undoubtedly have been much better to

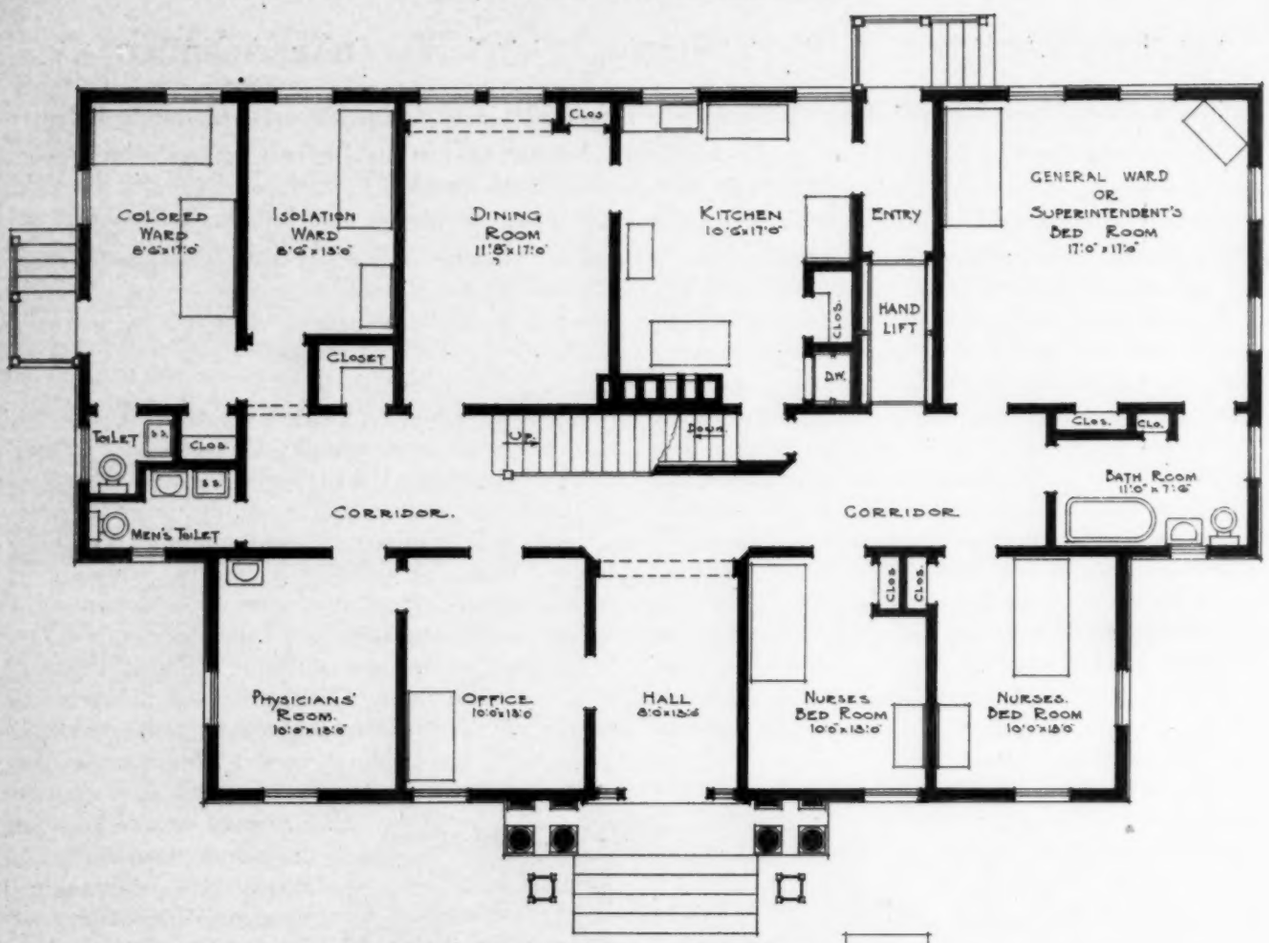

Fig. 2. A. D. Price Memorial Hospital. First floor plan.

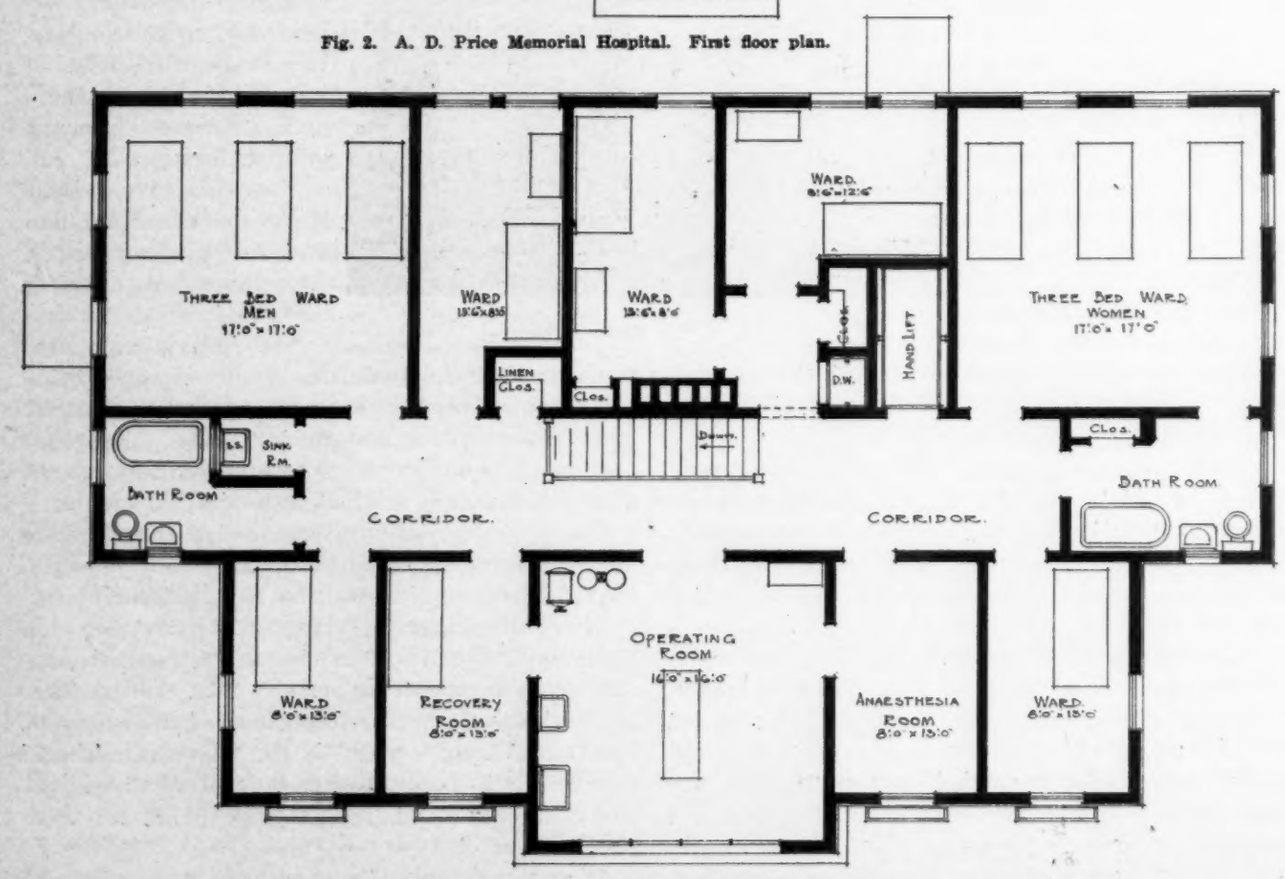

Fig. 3. A. D. Price Memorial Hospital. Second floor plan.

carry the corridors through instead of placing obstructing walls across them, but it would also have increased the size and consequently the cost of the building.

The low cost of this little hospital was possible for three reasons: (1) we used quite a lot of old material resulting from the demolition of an old residence that was on the property; (2) labor in Harrodsburg is at least 33 percent cheaper than in the larger cities; (3) our contractor took this work simply as a "pot boiler," to hold his organization over what promised to be a very dull season.

COST DATA

Building contains 81,906 cubic feet. Hospital contains 17 beds, 2 nurses' bed rooms, and superintendent's bed room.	
Total cost of building complete	$11,360.00
Or 14 cents per cubic foot.	
Cost of building complete without hot water heating system	10,190.00
Or 12½ cents per cubic foot.	
Cost of electric fixtures	116.00
Cost of hospital per bed, approximately	675.00

THE INTERN'S SIDE OF HOSPITAL SERVICE

Young Medical Men Will Respond if Their Interests Are Looked After—Trustees, Superintendents, and Medical Staffs Fail in Their Duty to Interns—Only Medical School Faculties to Be Counted On to Remedy Defects in Present System

By G. K. DICKINSON, M. D., Jersey City, N. J.

OF the several departments into which a hospital may be divided, the one of the internship is the last to receive attention. History repeats itself in the hospital, as the professional man is the last to be considered. No hospital is complete without interns sufficient to satisfy all the demands of a busy institution.

Even the patients who come to a hospital for a length of time do not fully comprehend the tremendous demands that are made on these young interns, who come poorly equipped mentally and professionally for the broad, generous work they are called on to give—prompt, efficient, and sympathetic attentions to patients when they arrive, to those distressed either from disease, injury, or the work of the surgeon; with the attending physicians and patients from morning until night; doing the work delegated to them by the superintendent; in the dispensary when needed; assisting in the operating room; doing the varied detail work of the laboratory; called out of bed many times during the night; then perhaps scolded because late for breakfast, and sometimes obliged to go without it.

The intern has been the under dog in the institution's struggles for many years. The average young man comes to the hospital a stranger—not only to it, but to the town and the neighborhood. He is more than desirous to make good for himself as well as for the place. He is young and crude, perhaps, in thought, and has not as yet learned system. He needs sympathy and cooperation. He needs the assistance and guidance of those older and better experienced in this duplex work of professional care and businesslike way of conducting his department.

The intern comes but for a year or so. The staff, superintendent, and others are there for a long and definite time. He is a stranger—they are at home. He is acquiring the last and most important part of his education, while they are making their living and doing that which is routine.

Too often there are those who do not comprehend the intern's position—his psychology, his varied nature, and yet his single purpose of obtaining information, of rendering practical the theories and ideals instilled into him at college, his great desire to be doing something for those who are sick and at the same time to please, if possible, the hospital family.

Every physician, every man, and every woman knows that he gets just what he gives. If a man sows little, he reaps little. A person of affability and genial disposition, who loves to instruct and train, whose whole nature goes out in cooperation and cohesion, will have in return a better product of work—more untiring, energetic attention and heartier cooperation than one who is testy, imperative, and demands rather than commands.

How many hospitals are there that seem to look on the intern as a stranger, as a necessary nuisance, as one on whom they can play detective, whose every variation from rule and regulation means a threat to reprimand, to be called before headquarters and severely disciplined! Such a condition can never make for a good institution. It will pollute the atmosphere of the place, and, as those in power have the word, the poor intern suffers. They have friends in town—he has none. He has no place to go for backing, friendship, and fair treatment. Such has been eminently the case in the past and is somewhat so in the present.

Up until 1890 doctors were made in two years, a third year being added at that time. With this change began a change in the public's mind

toward medical practice. Increase in education meant a distinction between those who guessed and those who thought. About that time the larger number of young men, following the impulse of educational thought, sought out the hospitals, and the institutions, when they held their examinations, found abundant material and often had a waiting list.

But college requirements and the laws of the legislators are having a pronounced effect on medical education. The average young man today is 25 years of age before he starts to earn a penny. His parents must finance him during a long educational period. One or more years of cultural education in a college, four years in a medical school, and one or more years in a hospital mean a tremendous outlay of money in order to make him a physician.

The climax of his education is to be obtained in the hospital. If we understand the times aright, each hospital accepting an intern will be obligated in a sense to the college that delivers him. Each hospital, of a necessity, must become a larger and more complete educational institution. The young man on whom so much money has been spent, who has reached the age of 25 or 27 years, who is educated and to a large extent refined, must be received and treated in the hospital in a far different spirit than has been afforded him in the past. He will expect and must obtain greater deference. He must be instructed in system and in methods of observation, so that the greatest good for the institution and for himself may be accomplished.

The professional staff will needs link themselves in one active body, who shall not, as often has happened, walk in to the bedside and walk out again, but shall interest themselves also in the hospital as a medical college and see that all departments—medical, surgical, and laboratory—warmly sympathize with the young student, and, instead of looking for his faults, act as all charity would demand—that none has faults.

In the majority of the hospitals within fifty miles of New York city, and probably in a majority of those throughout the states, the intern soon finds that he is little better than a high-class orderly. Rules and regulations for conduct are printed for him, but just how he is to do his work, how he can be on the ambulance and in the laboratory at the same time, and still be ready to administer ether, are not explained, nor is he given to understand, where there are several interns in the institution, the proper way of distributing the work to be done in case of illness or absence of one of the body. Seldom is there a helping hand from the administration or the attending staff. The young man is expected to have an old man's head —never to make a break, or, if he does, to be able to cover it over and not be found out.

In other institutions where there is much red tape, where there are those who desire and demand elaborate histories and condensation of bedside notes, the intern becomes a clerk. To make a proper physical examination and take good history requires of the best practitioner not less than half an hour. With several new cases and with the general run of ward work and side calls, the intern clerk will necessarily become embarrassed. The honest man who finishes his day's work has often been known to sit up until midnight scribbling away on that which is rarely, if ever, referred to. All of this puts him in the same class with the nurse, who is often made a cheap convenience for the institution.

If there is to be a proper awakening, if the intern is to receive his dues, then both sides of the question must be thoroughly comprehended. Perhaps because something for nothing cannot be obtained in this life, and perhaps because the hospital authorities felt they were securing from the intern that for which they did not have to pay, made them lose regard for him. Consequently the first obligation due to the intern staff should be a substantial honorarium or salary. This would make the young man feel independent of his parents, give dignity to his position, and at the same time give the board of managers a better grip on him, holding him to his duties.

There should be some one in authority whose business it shall be to orient the intern, explain to him his place, his work, the essentials of cooperation, how to spread it out so that the maximum amount of work may be obtained in the minimum amount of time, and how to arrange it between the different members of the intern staff, so that one man will not be crowded and the others have too much leisure.

The members of the attending staff have a moral obligation to the intern. They should, as far as possible, attend promptly at a fairly regular time. One or more of the intern staff should accompany them on every round. It should be obligatory for the attending men to train them in physical diagnosis; their powers of observation should be developed, the value of symptoms discussed, and everything which pertains to the individual as well as to the lesion brought out, exploited, and studied. Each patient should become a clinic; and, although the fifth year is one where the five senses are actively employed, still endeavor should be made to develop in these young students an ethical standard, a spirit of humanitarianism, and broad, noble, high-minded ideals—in other words, a practitioner properly developed

for the bedside, home life, and association with fellow-practitioners.

To the public mind medicine is boiled down into treatment. To the professional the study of the body in health and in disease, the reasons for symptoms, and the fundamentals of preventive medicine are the more important, and in the hospital schooling one should endeavor not only to teach pharmacology, but also medicine and its metaphysics.

On the other side, the intern is obligated to the patients, to the visiting staffmen, and to the nurses, as well as to the board of managers. Show a man respect and he will respond. When the intern finds that he is obtaining the treatment every man who respects himself should receive, there will be a new attitude discovered among this staff of men.

New cases should receive more prompt attention. Courtesy, kindliness, and personal interest will not only warm the patient toward the institution, but also relieve him of that fearful dread which everybody possesses on entering a hospital.

Rounds should be made slowly, carefully, and thoroughly at a specified time each day; the patient's complaints should be listened to and carefully weighed; mental and therapeutical treatment administered; and each and all made to feel that there is a personal interest in them, in their convalescence, and in their worries over home affairs and possibly depleted income.

Perhaps there is no stronger educative factor in the hospital than the making and taking of a history, provided the same be conscientiously gone over by the attending staff and studied as carefully as the patient is studied, and points of medicine, matters which are superfluous, incomplete observations and irrelevancies all discussed. Each history should be made to show everything which might be discovered in operation or autopsy. If time, attention, and interest be given to the histories, no one will ever have occasion to complain of the intern neglecting them.

It should be the duty of the intern, as soon as he has worked into his case, to decide as to what laboratory tests should be made—whether chemical, blood, bacteriological, or x-ray—and everything should be done to unravel these enigmas before the next visit of the attending physician.

This article may seem pessimistic to many, particularly to those who are connected with the metropolitan hospitals, but the writer feels keenly the predicament of the intern in the average hospital in the communities he has visited. The experience of many years in hospital life, meeting with several hundreds of interns, hearing their complaints, and the knowledge of the incompleteness of their education, have led him to express himself in all truthfulness, even though the picture be dark and perhaps unpleasant.

There must be a cure, and there is a cure. It will never come from the boards of managers; it will never come from the superintendents, nor from the professional staffs. The solution and moral obligation will rest with the faculties of the various medical colleges. If the colleges do not band together and work in the interest of the interns, demanding standardization of hospitals—demanding that the education of the intern be made a strong point, and demanding that due respect be shown him—the fifth year will be a failure and the Legislatures of the different states will endeavor in some way to effect reforms, and then will be confusion worse confounded.

1500 B. C. TO 1915 A. D.

Such Is the Stretch of Time Over Which Ligatures Have Traveled to Present-Day Perfection

The ligature had to travel a long road before it was established as the best and surest means of checking hemorrhage. The first account of the application of the ligature for this purpose is given by Susrutas in his Ayar Vedas (1500 B. C.). He tied the umbilical cord of the newly born infant with a string eight inches from the navel previous to cutting it. (Senn.)

Celsus (30 B. C.–45 A. D.) applied two ligatures to the bleeding vessel and divided it between them. When he could not ligate in these cases, he advocated the use of the cautery.

Aetius (500–550 A. D.) ligated for aneurysm, excising the sac, although he used a red-hot iron to stop bleeding in excision of the breast.

Kirkland (1721–1798 A. D.) asserted that "nothing can more powerfully intersect the course of the blood than a ligature." He advised the use of the ligature made of long "twelve-penny flax," with the ends waxed so that it would pass through the eye of the needle.

Sharpe, a surgeon of Guy's Hospital, in London, suggested the use of the ligature in 1761.

In the early use of the ligature, suppuration was considered necessary in order to facilitate its removal, for which purpose both ends were brought out of the wound. Later, some surgeons cut off the ligature close to the knot, but it was discovered that the ligature, after performing its duty, created an irritation and led to the development of an abscess.

In 1889 Agnew stated that "the knots, not being aseptic, act as irritants, retard healing, provoke abscesses, and are subsequently discharged from the wound. So the plan of cutting both ends of the ligature close to the knot may be regarded as an unsurgical procedure."

Philip S. Physick (1768–1837) was one of the early users of animal sutures. He used dog-skin and chamois cut into strips.

Sir Joseph Lister introduced the antiseptic or aseptic ligature. Since his day the same kind of violin string gut has been subjected to over one hundred different methods of sterilization in the hands of different experimenters and operators. Experimenters for years struggled with the problem of sterilizing catgut and keeping it sterile, and with few exceptions failed.—Red Cross Notes.

A RESIDENCE MADE OVER INTO A GOOD HOSPITAL

Three Rivers (Mich.) Institution That Cost a Small Amount for Architectural Changes—With Ideals and Economies Proving Successful

By JAMES R. KINGSLEY, M. D., Three Rivers, Mich.

CONSIDERING the vast amount of improvement that is being constantly made in hospital construction and organization and management, it would seem that almost any doctor anywhere could find hospital facilities that just suited his clinical needs. This seems not to be the case, however, because we have been hearing for years of the dissatisfaction of doctors in various parts of the country with their hospital facilities. That same thing was true here in Three Rivers, and without burdening the reader with a long story about our various attempts to do good hospital work with other people's facilities and in hospitals over which other people had control, I shall try to tell why we determined to create our own hospital, and for the benefit of the readers of THE MODERN HOSPITAL we are presenting the modest story and the illustrations of our hospital as it stands at the present time.

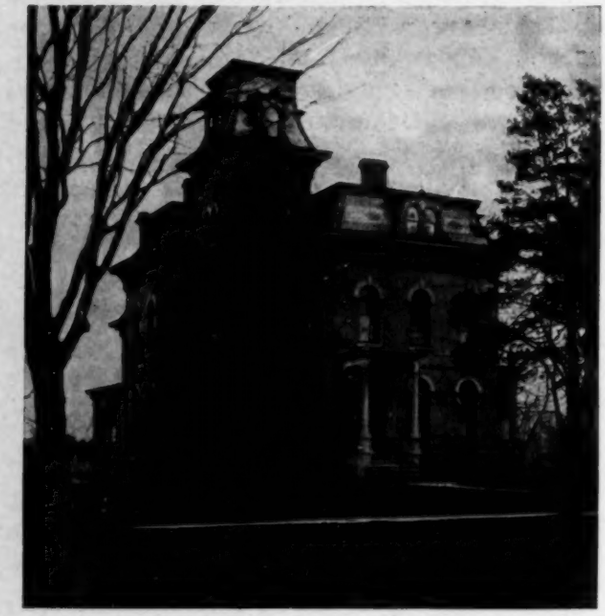

Fig. 1. Three Rivers Hospital.

First we bought a very fine, handsome old residence with three stories and basement. There were two acres of ground, with a frontage of 189 feet and a depth of 515 feet. The nearest house to our hospital is 125 feet away. In the grounds we have plenty of fruit, room for a large garden, old maple and pine trees about the lawn, with the possibilities of very beautiful landscape effects.

The illustrations show the changes that we made in the residence. In the basement we divided the large former store room and cut a morgue off of it; two unused rooms we changed over for vege-

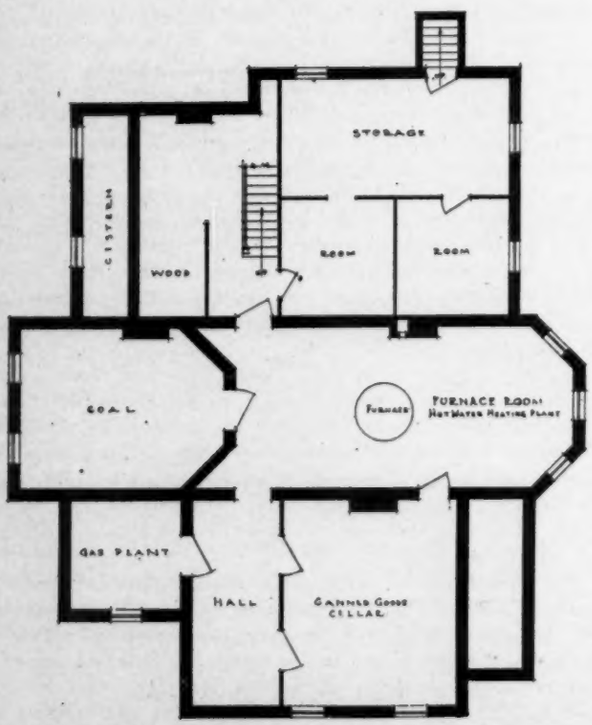

Fig. 2. Three Rivers Hospital. Basement plan as it was.

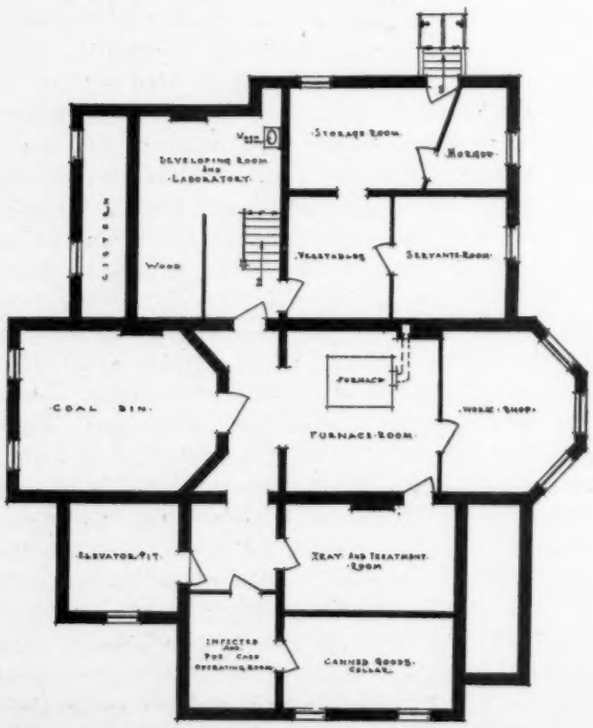

Fig. 3. Three Rivers Hospital. Basement plan with alterations.

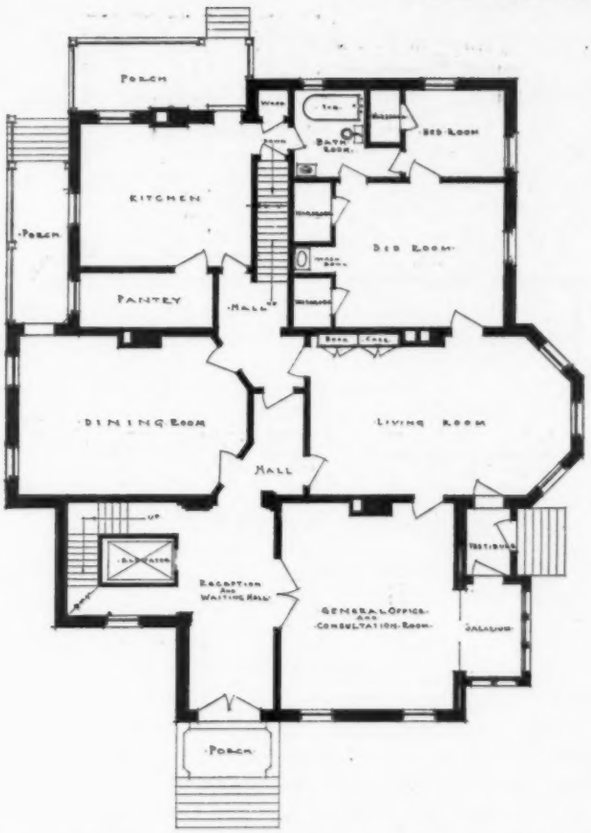

Fig. 4. Three Rivers Hospital. First floor plan—no alterations made.

table storage and a servant's room; a developing and dark room and a laboratory were made out of practically unused space. The large furnace room of the old residence, under the new arrangement, gave place also for a very commodious and conveniently arranged workshop. A cool room for canned goods and commodities of that sort was divided up, with one-half of it left for canned goods and similar bulk commodities, and the other half was taken for an x-ray and treatment room. A long hall was divided up and one-half of it taken for an emergency operating room. The area for the gas plant was just the right size for the elevator shaft.

No changes were made in the first floor, excepting that the beautiful circular stairway was torn out to make way for the elevator, and we put in a combination electric and hand elevator.

In the second floor the large, beautiful private rooms, seven in number, were made over into three wards—a men's ward of five beds, a women's ward of five beds, a maternity ward of five beds and four private rooms. The former bath room was just right for a bath and toilet in the new arrangement. We kept the back stair and added the elevator.

The third floor, that had been a gymnasium and billiard room, with the balance of the space set aside for storage, gave us plenty of room for our nurses, with necessary bath and toilet and closet arrangements, and also gave us a most satisfactory operating suite, still leaving a large unfinished area which we can later use for other purposes.

In the halls, dining room, pantries, kitchen, and bath rooms we put asbestone flooring, which makes mighty nice floors for hospital purposes. In the bed rooms and baths we have lavatories of black walnut, with porcelain bowl and marble top.

Such were the architectural changes necessary in this former residence to make of it what we

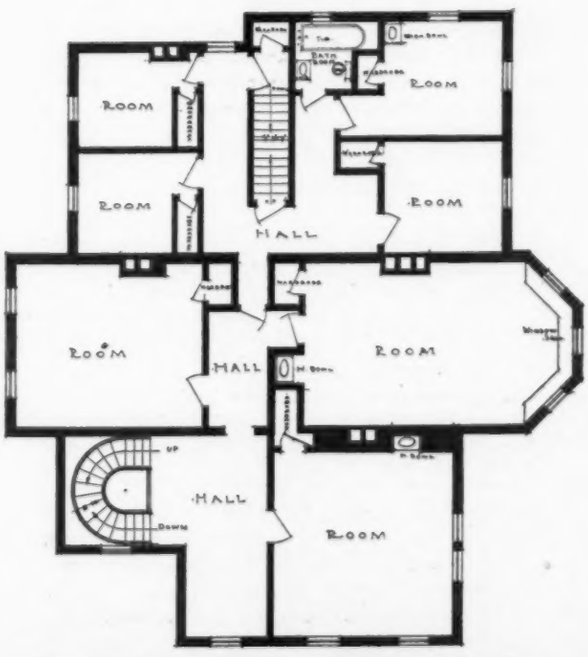

Fig. 5. Three Rivers Hospital. Second floor plan as it was.

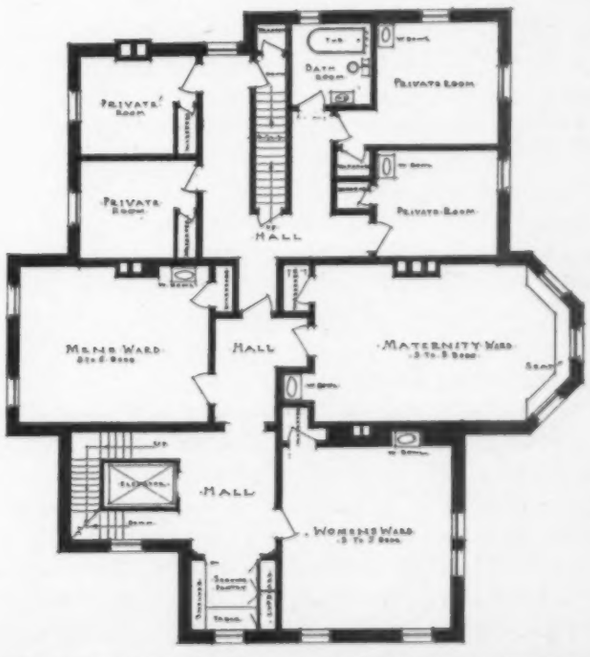

Fig. 6. Three Rivers Hospital. Second floor plan with alterations.

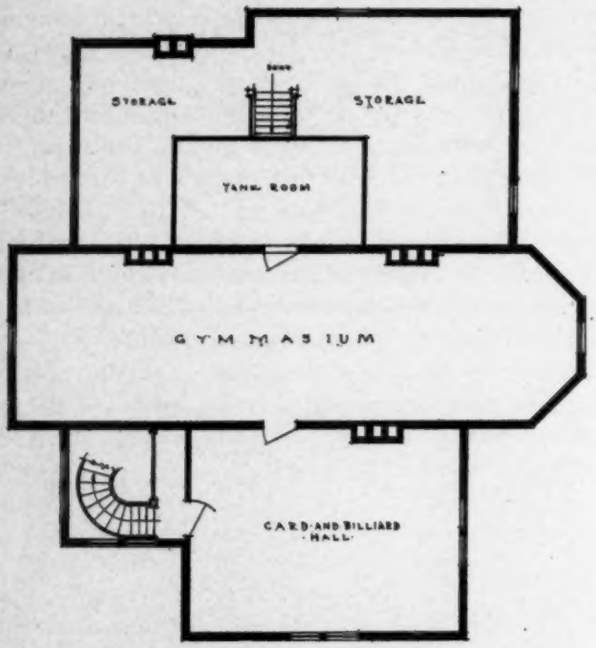

Fig. 7. Three Rivers Hospital. Third floor plan as it was.

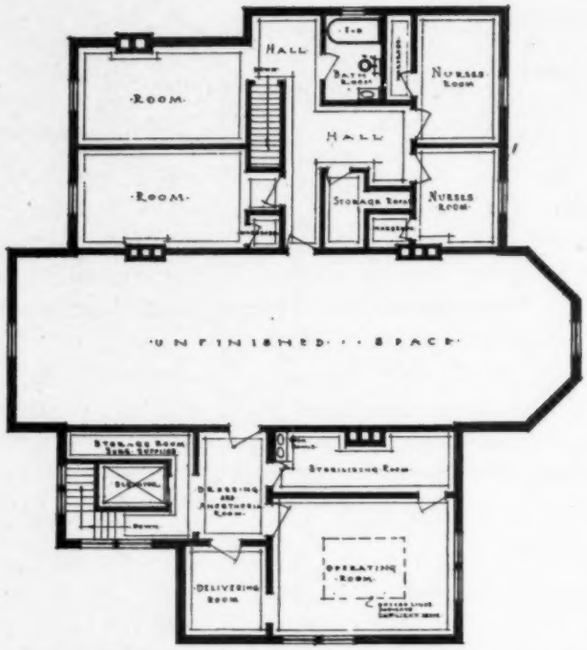

Fig. 8. Three Rivers Hospital. Third floor plan with alterations.

think is a most satisfactory little hospital. We have had a large number of visitors from out of town, men and women who have seen the best there is in hospital construction, and they tell us that our operating room suite is a gem of its kind and that its arrangement provides a most convenient and up-to-date and aseptic operating theater; and that our x-ray department and the work we are doing in our laboratory are quite efficient even in this modern day of high-class hospital administration.

We did not ask the public of our community to indorse the project of our hospital; we took it for granted, if we created something that our public wanted, that professional men and laymen would patronize it and use it. We have found that to be the case, and there is no longer doubt about the success of our undertaking. Although we own the hospital in its entirety, my wife and myself, it is open freely for the reputable physicians of our community to bring their private patients, and they have all the facilities of the hospital placed at their disposal and are entirely free to do their medical and surgical work in their own way and without interference on our part.

One of the secrets of our success financially is in not burdening the hospital with a large number of permanent employees, especially nurses. We keep constantly a head nurse, or superintendent, who does the work that in larger hospitals requires a number of women, and we keep also a surgical nurse, who has entire control over the surgical work in the hospital. All additional nursing is brought from the outside and when needed. We have access to the best nurses in our community, and they are always glad to be of service to us and come when they are called. In this way we do not have a large overhead expense. The same thing is true in other departments of the hospital. We do not keep a burdensome number of employees, and the result is that our finances are conserved and we are enabled to have the things that stand for good hospital administration, good materials, good equipment, and good service.

Compulsory Registration of Professional Nurses Becomes Law in Maryland

The amendment of the Nurse Practice Act of 1904, presented by the Maryland State Association of Graduate Nurses at the recent session of the local Legislature, has been passed on favorably, and, according to the provisions of the bill, will be enforced after June, 1917. In brief, the changes instituted are as follows:

1. To authorize the appointment of a registered nurse to act as visitor and inspector of training schools for nurses throughout the state.
2. To increase the fee for registration from $5 to $10, to meet the increased expense in administering this law.
3. To lower the age for registration from 23 to 22 years.
4. To make the registration of women professionally trained as nurses a compulsory rather than, as formerly, a permissive ruling.
5. To provide for reciprocity of registration with the forty-two states now enforcing registration laws. Owing to the existing discrepancy of educational requirements in these various states, this reciprocity is based on the qualification of the individual nurse. To such applicants as fulfill the requirements of the Maryland law, and are duly registered under the laws of another state, shall be issued certificates of registration without examination.

By the enactment of these amendments, together with the previous requirements of the equivalent of a high school education and three years of hospital training, the Maryland law becomes one of the strongest on the statute books. We most heartily congratulate the Maryland State Nurses' Association on this most progressive step in the advancement of nursing standards.

MUNICIPAL CLINICS FOR SCHOOL CHILDREN

Demand and Supply Curves on Pupils' Status Must Be Correlated to Obtain Best Results

Recently a statement was made on absolutely reliable authority that the cost of reeducating the retarded children of the city of New York amounts annually to more than the total appropriation for the municipal health department. It seems almost incredible, but a close scrutiny of the statistics of physical defects found among school children prompts one to give full credence to the statement. There are, no doubt, many factors besides physical defects which are responsible for the large amount of retardation in the schools of this city, but one cannot escape the conclusion that the educability of children is materially affected by physical handicaps which, in a considerable percentage of cases, are not relieved after they have been discovered.

Aside from carious teeth, hypertrophied tonsils and defective nasal breathing constitute the largest number of ailments ascertained by medical inspection. Jointly they are responsible for about 30 percent of all the defectives found among school children in 1915, and the two defects are coincident in over 80 percent of the cases. An effective remedy for over 95 percent of these conditions can be supplied only by operations. It is the unanimous opinion of the highest authority in the medical profession that these operations require hospital facilities, and should not be attempted except under general anesthesia. Aside from the fact that not very many institutions have sufficient facilities to handle a large number of adenoid and tonsil cases in a manner conforming to the highest standards, the cost of such operation entails a considerable cost to the patient or his parents or guardians. A large number of the children suffering from these defects cannot afford to meet the expenses involved, and are dependent on medical charity. As a result, their ailments are either not treated at all or are treated inadequately.

The experience of the health department of this city, which until the beginning of the present year conducted a number of nose and throat clinics, proved conclusively the paramount need of such institutions. The following statistics for the last three years show the increasing percentage of deserving cases which took advantage of the health department clinics:

	1913	1914	First nine months, 1915
Number of operations of defective nasal breathing in school children.	6,859	8,446	7,210
Number of operations of hypertrophied tonsils in school children....	8,383	10,124	8,494
Total number of operations.....	15,242	18,570	15,704
Number of operations performed in clinics of the department of health.	3,889	5,310	4,891
Percent of totals.....	25 percent	29 percent	31 percent

A study recently made by the New York Association for Improving the Condition of the Poor[1] shows that two-thirds of the children treated in the health department clinics came from within a two-mile zone in order to receive treatment, and many came four or five miles to get the treatment. Reasons of economy, however, have led the health department to abandon their clinics to the great detriment of the physical, as well as the scholarly, progress of the school population. Many conclusive studies have been made to show the relation of the incidence of physical defects to backwardness. Very frequently laggards become normal students as soon as their defects are corrected. The whole object in medical inspection work should be the remedy of the defects noted, for otherwise it is a senseless procedure. Although, through the persistent efforts of the school doctors and nurses, the percentage of treatments is increasing, still it is far below what it should be. The reasons for it are well known; ignorance and poverty, which usually, though not always, go together, are the chief causes. By education the first difficulty can be met, but no amount of literature will meet conditions arising out of poverty. To deal effectively with this class of children and their parents, it is necessary to provide gratuitous and efficient treatment. A study made by the author of this paper[1] some time ago with reference to the subject revealed the imperative need of providing free municipal clinics for school children. The discontinuance of these clinics on the part of the department of health of this city was unquestionably a backward step, as the modern tendency in school work is the closer correlation of the demand and supply curves of the students.

E. H. Lewinski-Corwin.

[1]Free Municipal Clinics for School Children, published by the Department of Health of the city of New York, Reprint Series No. 41, February, 1916.

[1]E. H. Lewinski-Corwin, "The Practical Necessity of School Clinics." The Popular Science Monthly, May, 1914.

NEW YORK'S POST-GRADUATE CLINICS

Organization in the Academy Maintains Bureau of Information to Welcome and Guide Visitors

The Society for the Advancement of Clinical Study has now been established at the New York Academy of Medicine, 17 West Forty-third street, for the past three years. In January, 1913, a small group of surgeons felt that medical men visiting the city in search of clinical and post-graduate work could make more advantageous use of their time if regular daily bulletins were issued of the operations and clinics held at the various hospitals in New York. The society was formed with this end in view—to make available to these visitors the vast clinical material in New York, thus helping to make the city the real medical center of the United States.

The city of New York is the best equipped of any city in the United States as to hospitals and clinical material. There are more than sixty hospitals in Greater New York that are reporting their operations and welcoming visitors from all parts of this country and Europe.

A bulletin board is maintained for this purpose, and a bureau of information is in charge of an attendant, who is on duty from 9 to 12 in the morning and from 2 to 6 in the afternoon, to give such information as the visitor may desire. The telephone for this office is 3375 Bryant.

The clinics held at the various hospitals are posted on the daily bulletin and sent to visitors for 50 cents per week. The bulletin board also contains a list of the daily fixed clinics, as well as those at the appointed hours at the hospitals.

The success of the Society for the Advancement of Clinical Study has been demonstrated by the ever-increasing number of visitors and inquirers who make use of these clinical facilities, and it is hoped that by these means the large and unexcelled opportunities for medical research and post-graduate work afforded by our city will be made more accessible to those who may desire to make use of them.

It is the earnest desire of the members, not only to increase the work by the addition of medical clinics and post-mortem examinations, but to bring about the active cooperation of all the hospitals and the attending physicians and surgeons, so that visitors to the city will find still greater opportunity for close study of the vast amount of clinical work in Greater New York.

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Contributors, subscribers, and readers will find important information on advertising page 34.

Doctor Hoffman Makes Another Report

In other pages of this issue will be found the statistical annual report of the Orange Memorial Hospital prepared by Dr. Frederick L. Hoffman, statistician of the Prudential Life Insurance Company. It will be remembered that last year Dr. Hoffman compiled a report for the General Memorial Hospital of New York city, and the year before a most elaborate report for Johns Hopkins. These reports of Dr. Hoffman's we regard as among the most important activities in the hospital field today, and they should be studied carefully by those responsible for annual reports in the hospitals of the country. We all know that most of our annual reports are practically worthless. THE MODERN HOSPITAL has had something to say about this frequently, and perhaps Dr. Hoffman has known better than any of the rest of us, because of the peculiarly sensitive atmosphere of the insurance corporation, and he has been giving us these reports—not as other reports are usually made, but he has had forces of men studying the hospital during the year and seeing that the data have been kept in accordance with his own judgment as to what was necessary in order to make a proper showing at the end of the year.

The time is coming, and it is almost at hand, when states, counties, and cities and the giving public will require an account of stewardship from the hospitals that they favor with their donations and support, and it is quite inside the facts to declare that not one hospital in a hundred in this country keeps its accounts, its records, and its financial figures in such shape that an intelligent inquirer could know what that hospital is doing at any time.

Responsible people will not permit this situation to exist very much longer, and those hospitals that value individual and official support will do well to analyze and study and attempt to follow the forms laid down by Dr. Hoffman in these annual reports that he is making for us.

Small Community Hospitals

One of the most insistent problems of the public health of this country today concerns the number and location of hospitals. Up to within the past year or two the writer of this editorial believed that any hospital which was not financially equipped to perform its functions according to the dictates of modern medicine ought to be closed and its work turned over to another institution capable of performing the duty properly; in other words, that the hospital which could not install a good laboratory of pathology, a good x-ray outfit, and the mechanical appliances for physical therapy, and whose building was not properly constructed with a view to proper ventilation and sanitation, should not be permitted to mask as a hospital, and that more especially a hospital which could not pay salaries for competent directors in the scientific departments of pathology, roentgenology, physical therapy, and dietetics ought not to be permitted to exist.

For the past year or two we have been wondering whether this position is a broad and liberal one, and we are now almost converted to the idea that every community in this country of any considerable number of people ought to have a hospital of some sort, even if that hospital cannot be equipped to give service along modern scientific lines.

We are coming rapidly to the conviction that even a poorly equipped hospital, with ideals behind it, which cost nothing in the shape of money, can give a better service to the sick than many patients can get in their own homes, and we are rapidly coming to the opinion that, even if the hospital failed completely in its duty so far as the care of patients was concerned, it would still be serving a very large purpose in the community if only it stimulated the activities of the medical profession of the community by giving the members a workshop in which to practice their profession

and thus acquire experience. It seems almost inconceivable, with the great number of hospitals in this country, and with the rapid means of transportation everywhere, that a patient could be taken suddenly sick with some emergency trouble and not be able to get to a hospital in time to save his or her life in the event that an operation was necessary; and yet there are many just such places where the hospital is fifty or sixty miles away and where the trains run so irregularly that it is impossible to count on railroad transportation, and where the roads are so bad that automobile and ambulance transportation cannot be made available. What is to happen to people who fall sick under these circumstances? Are they to lie at home and die? We think not, and we think the cure is to build small, conveniently arranged hospitals, equip them in the very best possible way that the community can afford, and thus give a workshop to the doctors of the community, so that when an emergency case does transpire they will be able to take care of it.

Moreover, we believe that in every locality where such a hospital is organized and built, and where it is properly conducted, economically and efficiently and very simply, that the people of the community will soon realize its value as a public health center and as a workshop for their doctors, and that they will eventually support it and support it loyally and abundantly.

We are wondering whether we hadn't better think about this principle of small community hospitals.

The Death of Doctor Sachs

Dr. Theodore B. Sachs, of Chicago, for a number of years known internationally for his service in the field of tuberculosis, died by his own hand at Naperville in the Edward Sanatorium, of which he was president, on Sunday, April 2. Evidently Dr. Sachs had labored under very great mental stress due to disagreement between himself and the administration of Mayor William Hale Thompson as to the conduct of the municipal tuberculosis sanatorium. Dr. Sachs had been president of that institution for years, and had been one of the three members of its board of trustees since the inception of the sanatorium project five or six years ago. He had resigned his place as president of the board a few days prior to his death, due to strictures on his management made by the mayor, and his resignation was evidently the culmination of a long series of disagreements.

We have no disposition to go into the merits of the controversy between those who favor and those who are opposed to the methods of the present administration in the management of the municipal sanatorium, but there can be only one conclusion in regard to Dr. Sachs' untimely death —namely, that it was deplorable and tragic, and that his loss will be felt in the field of tuberculosis for many years to come.

Dr. Sachs came to this country when a boy and began as a common laborer, working at odd jobs. He was a serious-minded, sincere boy, to whom fate had not been kind, and there is no doubt that very early in his career he had determined to devote his life to the service of others. Under heavy handicaps he had studied medicine, and under still greater impediments he had forged his way to the front in his profession until he occupied a most eminent position, where his service was telling most profoundly, especially in that stratum in society most heavily taxed by the great white plague. Perhaps unfortunately Dr. Sachs seemed to carry the weight of his responsibility so far that he sometimes was intolerant of the opinions of others, and there is no doubt that this peculiar characteristic of his was responsible for his untimely end. THE MODERN HOSPITAL has, or at least some of its editors have, questioned sometimes the wisdom of some of Dr. Sachs' methods, or, perhaps it had better be said, some of the methods of his more enthusiastic friends.

There are five institutions for the care of tuberculosis to which those ill with that disease in Chicago may be sent—the National Jewish Sanatorium at Denver, the Edward Sanatorium at Naperville, Ill., the Winfield Tuberculosis Sanatorium just west of Chicago, the Oak Forest Infirmary, conducted by the board of commissioners of Cook County, and the Chicago Municipal Tuberculosis Sanatorium. In all these various enterprises Dr. Sachs had a hand—indeed, controlled the admission of patients to all of them—and we have sometimes very seriously doubted the wisdom of placing such control in the hands of a single man, no matter who that man might be, how honest and able, or how wise concerning the solution of the problems in this field of public health.

But there cannot be two opinions as to the great value of the service Dr. Sachs gave to the world, nor can there be two opinions as to the great loss that humanity has sustained in his untimely death.

Many modern methods in the treatment of tuberculosis will stand as a memorial and monument to Dr. Sachs, and there is no doubt that there is no other man responsible to so great an extent as he for the great social evolution that has brought about almost universal institutional care of the

tuberculous, and the social service that has gone into the homes of the poor for the purpose of throwing protective devices about those homes and thus limiting the spread of that dreaded disease.

THE MODERN HOSPITAL and all those concerned in its welfare want to voice their appreciation of Dr. Sachs as a man and as a physician, and as a great social force, and to lament, with his other friends and admirers, his too early passing away.

An Important Series of Articles

Elsewhere in this number of THE MODERN HOSPITAL occurs an editorial on "The Small Community Hospital." It seems to us that this editorial suggests one of the most important topics now concerned in the public health in this country. The more we have thought about it the more insistent has this problem grown, and, with a view to placing it fairly before public health officials, hospital people, and the medical profession, we have determined on the publication of a series of six articles, beginning with the June number, the topics to be as follows:

June—"The Preliminary Work Incident to the Creation of the Small Community Hospital—A Survey of the Community as to Its Needs." This paper to be accompanied by sample constitution and by-laws, rules of organization, etc. It will also attempt to present to the reader a key to his own community, so that he may determine whether that community needs a hospital; if so, what size and character, whether the community can support such an institution as his survey points out as the need, and how to proceed with the preliminary organization.

July—"Financing the Small Community Hospital—For Construction—For Permanent Support." There are two viewpoints as to the financing of the small hospital; first, that incident to the creation of a fund for the building, equipment, and opening of the institution; second, the creation of or arrangement for funds for permanent support. This paper will take the ground that no small hospital should be so conducted as to create a deficit, and that there is no reason why a deficit need be created. It will strongly urge a sharp line to indicate where and how the funds for charitable purposes shall be secured.

August—"Planning the Small Community Hospital." This paper will continue the survey of the first paper in so far as the character of the hospital is concerned. It will discuss the various services that must be conducted and the relationships between these services, and the proportionate number of beds in each. The paper will also discuss the relations between these services in the architecture of the building, whether it be a 10-bed or a 100-bed hospital.

September—"Building the Small Community Hospital." This paper will discuss material in the construction, foundations, walls, roofs, floors, partitions, doors, windows, and such details as elevators, dumbwaiters, refrigeration, vacuum cleaning, etc., and will attempt to set some standards to indicate where and to what extent these various features of installation can be advantageously employed in various size hospitals.

October—"The Organization of the Small Community Hospital." This paper will attempt to describe three phases of organization; first, the general organization of all factors presided over by the board of trustees; second, the administration of the hospital; third, the medical organization, which includes also the nursing and intern service.

November—"The Administration of the Small Community Hospital." This, the final paper in this series, will attempt to carry the administration of the small hospital out of the office of the superintendent and, as it passes down, through the various administrative departments, the stewardship, the laundry, the housekeeping, the culinary department, etc.

It will hardly need an argument to persuade hospital people that there is vast room for discussion on all the points suggested, nor is there an argument necessary to persuade those who are well informed that there is a great and growing class of people in every community in this country keenly alive to the need for the small community hospital, and anxious and willing to learn something about the intimate details. A good deal of care and study has been and is being given to this series of articles, and it is greatly to be hoped that it will contain food for thought and perhaps an occasional solution of a knotty problem here and there.

The military hospitals have their special history, and the first ones are mentioned under the reign of Henry IV. of France. In the eighteenth century they were quite general, but their number was so small and their accommodations so inadequate that Pringle considers these hospitals, with their bad air, as the chief cause of the diseases among the armies and characterized them as the terror of the soldiers.

I do not think myself entitled, with our limited experience, to mention an exact number of patients that on no account should be exceeded; but, whenever a new hospital is to be erected, the danger of having too many sick people under one roof or living close together should not be lost sight of, and moderate dimensions should be insisted on. To have only small hospitals in large cities would be inconvenient and a useless expense.—F. Oppert.

THE EVOLUTION OF THE AMBULANCE

Lessons of the War Concerning Transport of the Sick and Hurt—Dr. Fauntleroy's Report

The problem of the transportation of the sick is not confined to the exigencies of the European war. As the development of our hospitals has gone forward and new social conditions have injected themselves into American life, new demands have sprung up. It is not so long ago since we felt that a very prime necessity in considering the creation of a new hospital was to have it right in the heart of the populous district of the community, where those who were to be recipients of its services could be reached promptly and brought to the hospital without delay in quiet, good order. During this epoch, city noises and city dirt and bad air, smoke and dust were not only very bad for the sick, but they were expensive in making it almost impossible to keep the hospitals clean.

Then, by fortuitous circumstances, came the automobile, and with it, or a little later, the automobile ambulance, with the possibilities of rapid transportation of the sick; and just now, as the great European war comes on the scene to settle some of our chaotic problems, those who are concerned with the public health of this country recognize a necessity to revolutionize some of the building problems of our hospitals; it is no longer necessary to build in the dirt and noise of the busy population, because time and distance are rendered almost negligible by the quicker means of transportation.

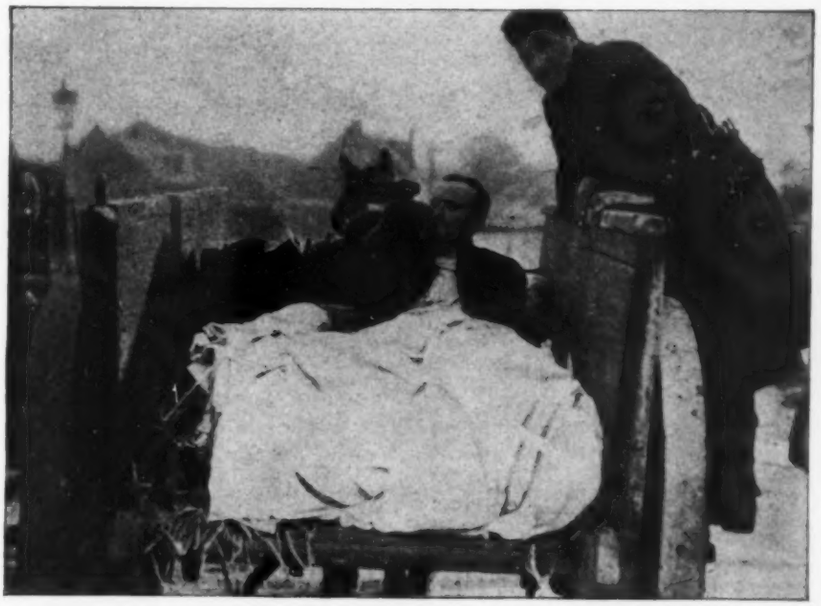

Fig. 1.

But there are some problems to be solved—problems of expense concerned in the operation of hospital ambulances, problems of convenience in the handling of the sick and hurt in these ambulances, problems of dispensary service and visiting nursing, because these also have a problem in transportation.

Some of us are attempting to solve these various problems in one way, some of us in another. Only recently THE MODERN HOSPITAL published a story from the Burke Foundation Convalescent Home at White Plains, N. Y., in which Dr. Frederic Brush, superintendent, told us of that institution's solution of this problem in the conveyance of the sick from New York city over the twenty-five miles to the institution, and we illustrated in connection with that story the large omnibus ambulance used for the purpose. Other hospitals are thinking about carry-alls, partly for sitting-up patients and partly fitted with beds for those who must lie down, so that the latter emergency could be met when occasion required.

Fig. 2.

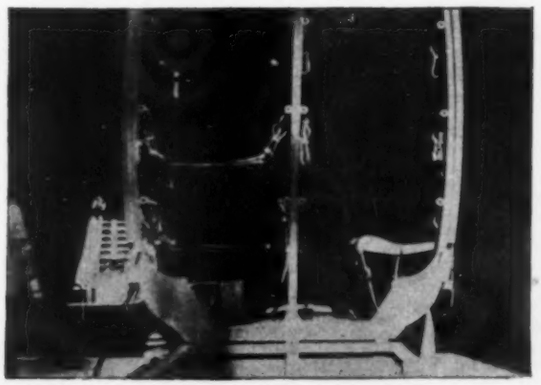

Fig. 3.

Then there are other institutions—as, for instance, the Milwaukee Municipal Hospitals outside that city, at Wauwatosa—where the problem is not yet solved; at Cleveland, with its magnificent Cooley farm of two thousand acres, with convalescent and tuberculosis accommodations, accommodations for the aged and infectious, where the problem is also not yet solved; the problem at Philadelphia, with its Bybury farm as an overflow for the Philadelphia General Hospital, but with no settled means of transportation; and in a hundred other places this same problem is insistent and those responsible for the institutions are doing their best to solve it.

Just a year ago the British Government, through the great Burroughs Wellcome Laboratory, offered a prize of $5,000 for the best hospital ambulance that could be de-

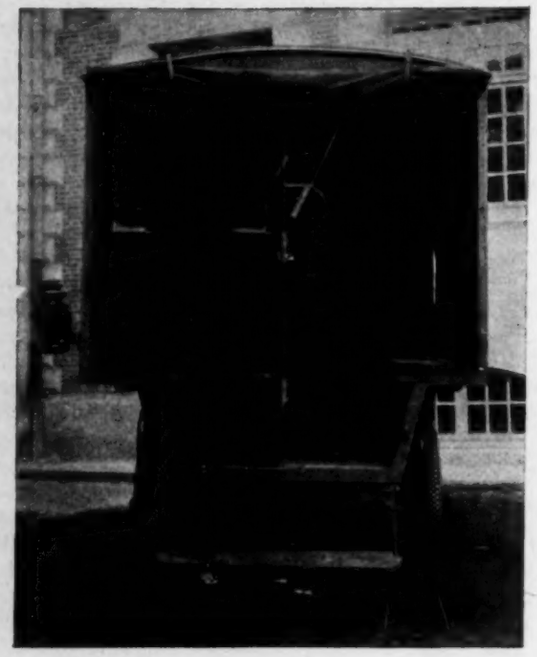

Fig. 4.

vised, as going to show that in England, too, the problem of the transportation of the sick was not yet solved.

And now, just in the midst of our perplexities, comes Dr. Fauntleroy with his most illuminating and graphic story of what the European war has developed in all medical lines, methods of treatment, simplification of surgery, the creation of portable hospitals, and the quick and convenient transportation of the sick.

The illustrations accompanying this article are from Dr. Fauntleroy's report to the Navy Department of our Government, and it is to the courtesy of the Navy Department and Surgeon-General W. C. Braisted that we are indebted for their reproduction. The illustrations are self-explanatory; they need no legends to vivify them; they show the transportation of the hurt from the battle fields under every conceivable situation; the stretcher route from the place where the soldier fell, back to the trench, from the trench to the field hospital—sometimes by ambulance, sometimes by motorcycle, and sometimes on the back of a comrade; then the railroad journey from the field hospital back to the base, and from the base home, sometimes by railroad and sometimes by sea.

The transportation problem was quickened and rendered vastly acute in Europe's war by the fact that hospital gangrene, tetanus, and sepsis of various sorts seemed to dominate the situation from the very outbreak of the war; soldiers lay for hours and sometimes even for days between the lines without a possibility of relief or rescue, and oftentimes men died solely for want of attention, and there is no doubt that even now many thousands of men who could easily get well are dying for want of attention and transportation. In Europe it is not a case of the transportation of single soldiers, but of many thousands, even many thousands per hour sometimes. And so with us in this country we have to think, not of the transportation of single individuals who are sick or hurt, but of two or three, or five or nine who perhaps have been the victims of an accident and who must be taken to the hospital rapidly if they are to have efficient care and treatment; and so the consideration of the ambulance becomes an acute problem.

There are some ambulances made that will transport two recumbent patients and three or four sitting up, but

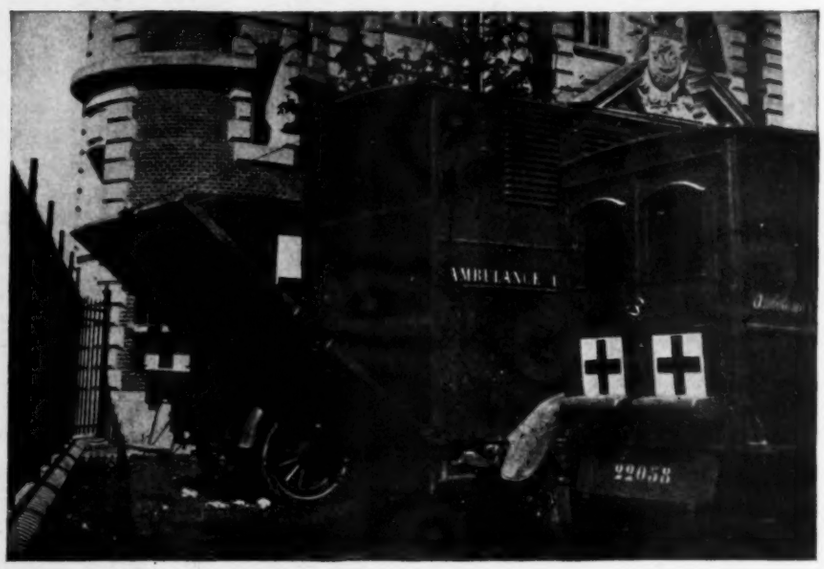

Fig. 5.

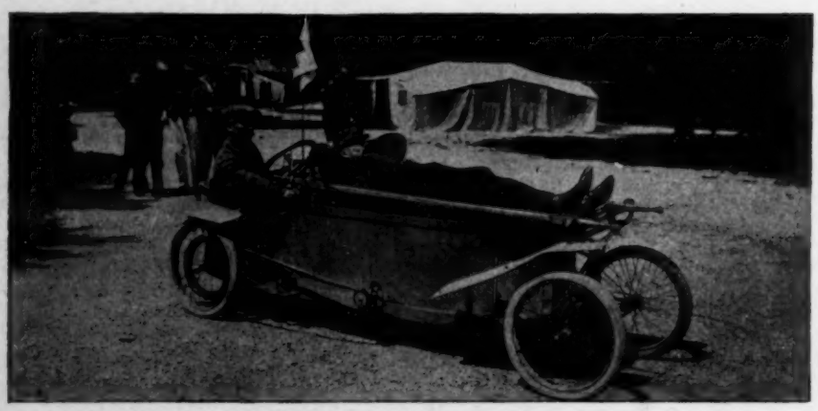

Fig. 6.

they are extremely inconvenient to admit the upper recumbent patient, and no device has yet been made that will make it easier to lift the patient from the ground into the upper berth of the ambulance.

In the European war the Red Cross men are always at hand to carefully lift the patient, and too many times the patient himself is in shock and does not suffer pain in being moved, but this particular problem is much more insistent with us. There is not the shock of war, there is not the deadening of the sensibilities as there is in Europe today.

In these illustrations of Dr. Fauntle-

Fig. 7.

roy's there is very much food for thought. Is the European war in this transportation problem contributing anything for our use in times of peace? Are we any farther ahead? Are we nearer to solution of this problem because of the war?

We might dwell very briefly on some of the illustrations that Dr. Fauntleroy has given us. Beginning with Fig. 1, with its two-wheeled cart, used in the early part of the war to transport patients—this vehicle was especially prominent on the eastern front with the Russian forces and in the Balkans. It seemed to do well in mountainous country where heavy automobile ambulances could not travel. Then came larger horse vehicles with canvas covers, resembling very much the old "prairie schooners" of our western pioneer days. Then we have in Fig. 2 almost a homemade automobile, a great lumbering truck, primitive in construction, but very serviceable. In Fig. 3 we have an ambulance with a capacity of six stretchers, and in Fig. 4 a smaller one with four stretchers. In Fig. 5 we find an experimental truck with the rear letting down so that patients may be carried up an incline to the interior. Then we have in Figs. 6 and 7 two experiments with the motorcycle, and in 8, 9, and 10 we have the railroad transportation of the hurt.

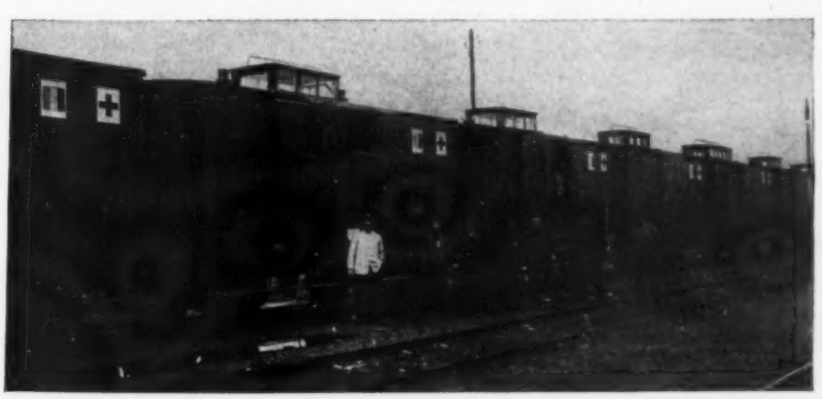

Fig. 9.

Years ago, during the Boxer uprising in China, the armies of the European powers that were jointly attempting to settle the revolt had occasion to follow some native troops up the rivers and over long distances, sometimes through the mountains and through swamps, and there were occasionally pitched battles on hillsides and in valleys, and a good many of our American soldiers, as well as those of the European countries were injured. The question of the transportation of these wounded back to the posts, especially to Pekin, was very acute. There was the question of the stretcher service from the firing line to the field hospital; a second transport to the railroad, where there was a road; sometimes this second period was to a river, where the wounded were placed on junks and sampans, and had to be floated back to headquarters. There were sometimes half a dozen different agencies at different periods that had to handle the sick, and, as a high officer of the United States army

Fig. 8.

stated the case, if one inch of that transport route was not provided for, so that things would run smoothly, the whole transport problem fell down and our injured and consequently our army was left in a hazardous situation.

Only recently, in the invasion of Mexico, the transport of the wounded and the sick across the deserts of northern Mexico presented a problem so acute that, in one instance at least, protests reached Washington about the inadequacy of the service.

Next month the third and last of these Fauntleroy problems will be presented—viz., that concerned in the creation of portable hospitals, their construction, their equipment, their supplies, and their administration. In this story, too, have we very much to learn from what the European war is developing. We,

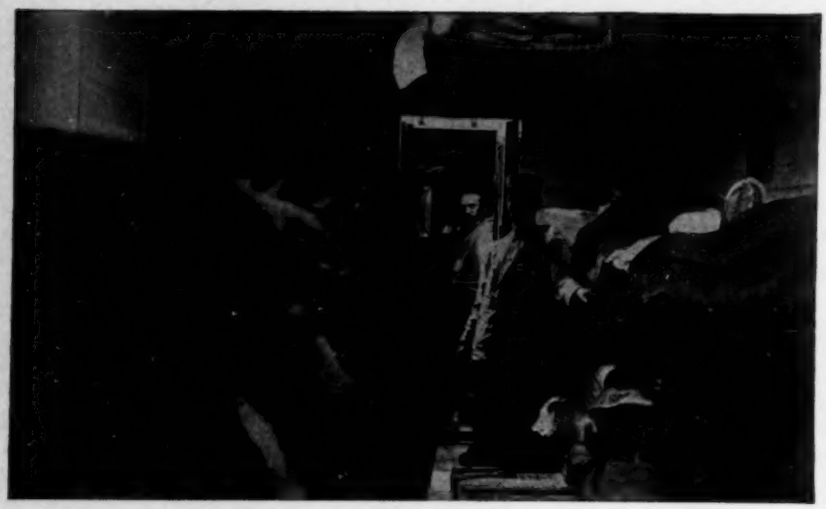

Fig. 10.

who are finding it impossible to build hospitals adequate in character for $2,000 and $3,000 per bed, are to learn that half a dozen trucks can wind about the hills and valleys of France and almost in an hour empty their contents into the form of a finished hospital, with electric light plant, operating room equipment, sterilizers of all sorts, portable hot and cold baths, and the last detail of a modern hospital plant.

"SOCIAL WELFARE"—MUCH ABUSED TERM

Hotel McAlpin, However, Has Reciprocal Service for Employees as Well as Patrons—Some of the Details

I am glad to contribute to the valuable service THE MODERN HOSPITAL is giving to industrial and other business organizations regarding welfare work for their employees. I realize that the point of paramount interest to readers who are responsible for this welfare work is the economic value of it. In other words, what your readers would like to know from me is, what is saved every year pecuniarily and psychically to the Hotel McAlpin corporation through the operation of our emergency medical and surgical department.

It would be very interesting at this time to write long and explicitly on the various ways and devices we have for instructing and interesting our employees. That work is usually called "social welfare," but, as an institution, we object to the phrase. It would probably be inopportune at this time to enter into a discussion concerning the prejudice created by the term "social welfare" in the minds of those who, perhaps, most need its functions. Somehow it presupposes an idea of superiority among those operating it as distinguished from those who are expected to benefit by its operations.

We have for employment manager, Mr. H. E. V. Kersburg, graduate of Harvard and an all-round athlete. Directly or indirectly through his influence we have baseball, bowling, and tennis teams, and a swimming club which uses the public baths in winter. We have systems of merit, whereby increase of salary is contingent on good marks. The McAlpin is a patron of the school for bus boys, or, more properly speaking, the Hotel Men's Training School. Entertainments are given in the ball room for both sexes—music for dancing, lectures, moving pictures, etc. Until recently the New York Board of Education held evening classes in a room provided by the hotel management for the instruction of foreign girls anxious to learn the English language. But, notwithstanding all these efforts for the general improvement of the Hotel McAlpin army of workers (numbering something like 2,000), we still make no pretense of "social welfare" work, and really prefer to go without the credit if we must use the title. As Abraham Lincoln so aptly expressed it, "There is no permanent class of hired laborers among us; twenty-five years ago I was a hired laborer; the hired laborer of yesterday labors on his own account today and will hire others to labor for him tomorrow. Advancement—improvement in condition—is the order of things in a society of equals."

But to return to the question regarding the economic value of an emergency hospital to a corporation. Its first value, and of which, if time and space permitted, could be given innumerable illustrations, is contained in the application of that old saw, "an ounce of prevention is worth a pound of cure." I recently asked the chief of our medical staff, Dr. Sumner Everingham, what he considered the most valuable economic factor of our hospital, and without hesitation he replied, "the hands which it saves." Possibly the feeling and conviction which he expressed were in part due to the scenes in Serbia, from which he had recently returned. As he expressed it, "legs can be dispensed with, but how incapacitated is a human being without hands!"

Now, after all, a hotel is a home on a large scale, and most of the accidents occurring may be duplicated in the average home of twelve rooms—more or less. For instance, what housewife has failed to occasionally break a glass when drying it? And yet the almost inevitable cut resulting from the breakage has danger of infection reduced to the minimum in the home, and, if such a term were permissible, exceeding the maximum danger of infection in a hotel. But antiseptic dressings supplied in the emergency hospital reduce the danger of infection to almost nil. Again, what man or woman has wiped floors or stairs and failed to receive a tear from pin or other foreign substance? Here again occurs the value of the ounce of prevention; the slight injury is washed with an antiseptic and a dressing put on to prevent infection.

Our most common cases are lacerations and contusions; the former occur in our engine and kitchen rooms and housemaids' and housemen's departments; the latter are caused principally by windows and doors. Ours is a fireproof hotel, and practically all the doors and window sash are metal, which makes them very heavy. The antiseptics used are invariably iodine, boric acid, or bichlorid of mercury.

Another very common source of trouble is foreign body in the eye. The substance is removed, the eye washed, and the patient loaned an eye cup and given a bottle of 4 percent boric acid solution. This one item of help to the employee would seem to warrant the existence of the hospital. Who could work with a foreign substance in the eye and do the maximum task? The patient is relieved of suffering, receives instant help, is taught care of the eye, and the corporation is not subjected to any loss through the employee being incapacitated.

We treat in our emergency hospital about 5,000 cases in every 365 days. Many of these cases, perhaps the majority, come under the head of that much hackneyed

term, "preventive medicine." It has been my privilege to sit in the hospital an hour at a time just for observation. During that period an incipient cold, a headache, a case of constipation, painful menstruation, dressing of a slight laceration from broken glass, may all have been treated and in such a manner as to leave no doubt in the minds of the patients regarding the interest of our head nurse, Miss Katherine Dalton. One great value of this attention is the education of employees concerning the care of small ailments. To illustrate, a Polish girl, talking only broken English, was brought in by another of her own kind; the latter evidently knew the value of the hospital; the former confessed to a prolonged case of constipation; she was not treated to a strong cathartic and sent about her work, but she was given an intelligent dose, cathartic and stimulant —one enhancing the value of the other—and then told to return at a certain hour. That case came immediately under expert observation; undoubtedly sickness was avoided. The general health of the girl was helped, and the corporation saved the loss of her wages during what might have been a period of inactivity.

The value of the foregoing facts may be measured in dollars and cents, but who can measure spiritually the value to the corporation (which is commonly supposed to be soulless) of the seeds of good-will which are sown in the heart of the employee by such consideration for his or her welfare?

Occupational diseases can hardly be considered as occurring among hotel employees. We have had, I believe, one case of "housemaid's knee," but occupational diseases could get very little headway under any circumstances in an institution where "prevention" is the watchword.

If space permits, I would like to give an illustration of the efficacy of the doctrine of proper feeding. We have an employee who, through improper selection of food from a varied bill of fare, became wasted and ill; ice cream was her breakfast, and even pastry had lost any attractions for her. The nurse took the girl under constant supervision; for two months she ate only under the direction of the nurse. Food especially rich in muscle and flesh-building qualities was selected; also, the progress from lighter to heavier diet was accomplished by degrees. No medicine was administered, except during the first few days when the treatment of rational feeding was started; today that girl is one of our best and healthiest employes. So much for doctoring without drugs.

Our chief of staff performs many minor operations. The accompanying pictures portray very well the up-to-date equipment of our hospital. While we have been troubled with very few serious accidents, we are always ready for them. Antiseptic dressings, cotton puffs and sterile wipes, are always ready in anticipation; many are used daily in examination of teeth, eyes, nose, throat, and ears. In the case of instruments are different sized scalpels, forceps, probes, groove directors, and throat, nose, ear, and vaginal speculums; also, there are tongue depressors, stethoscopes, head mirrors, snares, hypodermics, and that

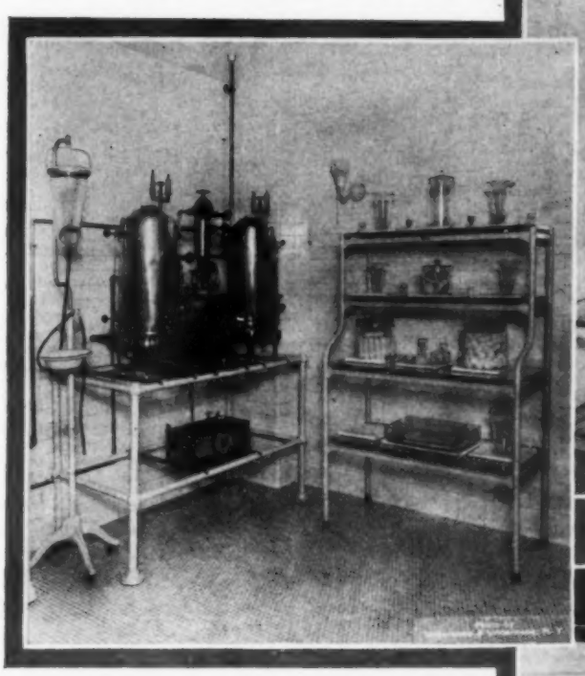

Fig. 1.

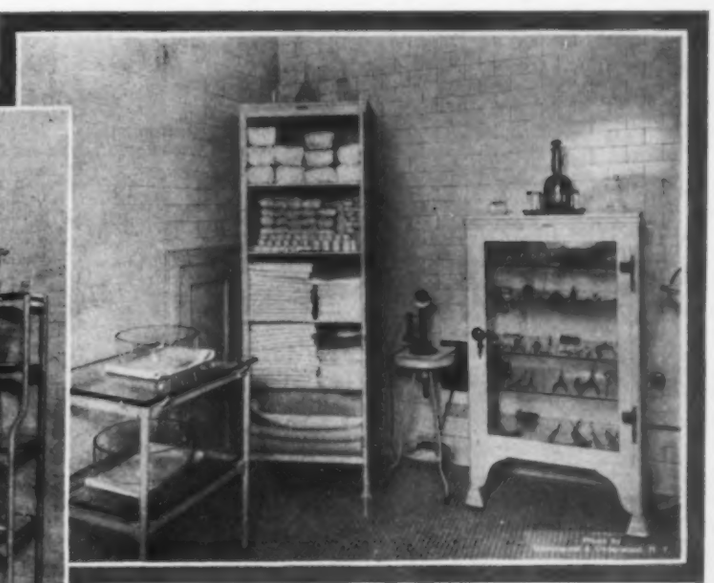

Fig. 2.

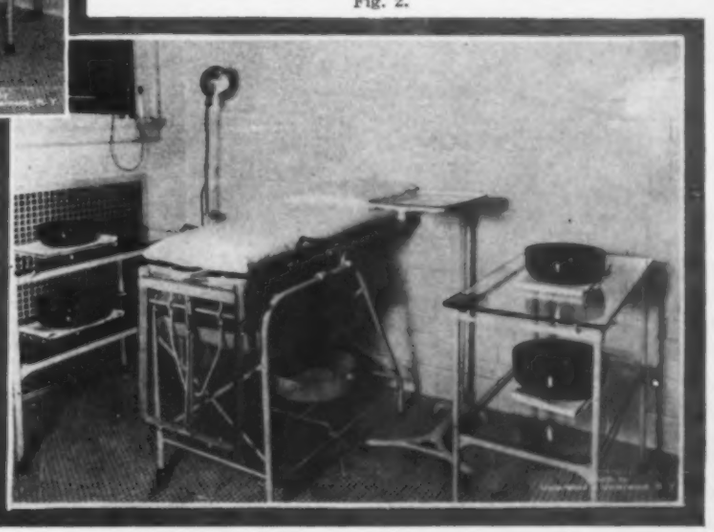

Fig. 3.

Hotel McAlpin. Fig. 1—Sterilizers and dressings. Fig. 2—Everything ready for an emergency. Fig. 3—Emergency operating unit.

interesting instrument used to determine blood pressure. The health certificates from waiters and cooks required by the New York Board of Health are issued after free examination by our own staff of physicians. After unsatisfactory replies to some of the questions in the examination, the Wassermann, Widal, or tuberculosis test is applied for which the particular case may indicate a necessity. Right here it might be stated that this corporation feels that it benefits itself by providing opportunities for such examinations free of charge. The idea of expediency not more than the idea of justice is contained in this personal opinion of its own acts. In connection with this idea I cannot do better than quote the words of President Wilson in his speech delivered before the Gridiron Club the other evening: "Justice has nothing to do with expediency. Justice has nothing to do with any temporary standard whatever. It is rooted and grounded in the fundamental instincts of humanity."

And that is really the mainspring of our endeavors—service, commercially, to our patrons; and service as a reciprocal relationship between employer and employee.

LOUISE MORRELL WHIPPLE,
Staff of Hotel McAlpine, New York.

NEW BLODGETT MEMORIAL HOSPITAL AT GRAND RAPIDS IN OPERATION

The United Benevolent Association Dedicates a $700,000 Building

A magnificent new home for the Union Benevolent Association Hospital at Grand Rapids, Mich., was formally opened March 31, the principal address being delivered by Dr. Victor C. Vaughan, dean of the medical department of the University of Michigan.

The new structure, which is five stories high and has a capacity of 125 beds, is one of the finest and most completely equipped hospital buildings in the country. It was erected by John W. Blodgett, millionaire lumberman and president of the Union Benevolent Association, as a memorial to his mother, and is said to have cost over $700,000.

In his presentation speech at the dedicatory exercises, Mr. Blodgett said that two central ideas had been followed in designing and equipping the building—first, to embody practically all the agencies of which those responsible for the planning could learn that would tend to aid in the diagnosis and care of human ailments; second, to provide facilities that would make it possible to maintain the institution at the lowest cost consistent with efficiency.

The architectural plans for the building were furnished by the firm of York & Sawyer, New York city.

In connection with the hospital the association has also opened a new home for the nurses of the institution, which is reported to represent an expenditure of $80,000. The nurses' home will perpetuate the name of Marion L. Withey, who in its earlier days was prominently identified with the work of the association.

The history of the Union Benevolent Association dates from the year 1847. From the beginning its work was confined to the relief of the needy poor. For many years an orphanage was maintained. At the close of the Civil War and after the State School for Children at Coldwater had been established, the orphanage was abandoned and a home for aged and infirm persons was established.

In 1884 a building with special hospital facilities was erected, and a training school for nurses, the second one to be established in Michigan, was organized.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

Some Factors in the Success or Failure of a Small Hospital. Dr. R. E. Castelaw. The Jour. Mo. State Med. Assn., 1916, XIII, No. 2.

The principal factors in the success of a small hospital are dependent on the following outline: (1) a clearly defined need for a small hospital in the community; (2) the construction of an adequate and well-equipped institution; (3) the need of a sound and suitable financial basis; (4) competent and efficient administrator, nurses, and help; (5) scientific care of the sick, up-to-date laboratories, x-ray department, etc.; (6) the selection and maintenance of high standards in the visiting staff; (7) individual investigation of the financial resources of all patients and a discouragement of all indiscriminate charities; (8) an efficient system of accounting, whereby bills will be rendered at the proper time and incoming bills be discounted when due; (9) the responsibility of various department heads for the waste in their departments, as well as indiscriminate requisitions; (10) that the purchasing department be up-to-date on purchasing, and be free to take advantage of all changes in prices.

Installation and Functioning of the Faucher Depot Hospital for Convalescents (Sur l' installation et le fonctionnement de l' hôpital-dépot de convalescents Faucher). Dr. Rouquette. Arch. de méd. et pharm. militaires. Paris, 1915, LXIV, No. 3.

This hospital was established in December, 1914, for the purpose of receiving all convalescents discharged from the hospitals in the Department of the Gironde. The hospital consists of four large two-story pavilions, which before the war had been used as military barracks and were then converted, with great skill, into a military hospital. From December, 1914, to August 1, 1915, not less than 37,409 convalescents have passed through this hospital.

The Hospital Question. Ed. Illinois Medical Jour., 1916, XXIX, No. 2.

At the present time there is in Chicago a large hospital owned and controlled exclusively by doctors. A stock company was formed and shares sold to physicians. The proposition has been so successful that it has been necessary to enlarge the hospital to accommodate the patients of other outside physicians. This success has been due to the amiable relationship of the physicians who bring other patients to this institution. A feature which is of greatest value in the arrangement is the facility for team work among the doctors, in which they may at all times keep control over their own patients. There is now a company of physicians forming to build a hospital in another part of the city. This will be a stock company, and doctors of general practice will own the hospital and control

its policies. Doctors, generally speaking, would rather not bother with hospital administration, but they are being compelled to do so as a matter of self-preservation, and the sooner other institutions follow the same lines of administration the sooner the hospital question will be solved.

Building Housing the Insane. Allen Jackson, M. D. New York Med. Jour., 1916, CIII, No. 13.

The writer draws attention to the many old and inflammable buildings set aside for the care and treatment of the mentally defective, and the plea from the superintendents to replace these wooden structures with modern fireproof buildings. Lack of public feeling and sentiment in the care of the insane, also the added burden of taxation attached to demolishing and rehabilitating an old building, are the chief factors of delay. Many important and inexpensive changes can be made, resulting in a greater safety to patients, such as modern fire escapes, increase in yard space, ward arrangement, and heating and lighting. It is extremely necessary that rules governing employees and patients be enforced, thus reducing many of the prevalent items of danger in institutions of this nature.

A Center of Neurology and Psychiatry of the Army (Un centre de neurology et de psychiatrie d' armée). By G. Roussy and J. Boisseau. Paris médical, 1916, VI, No. 1.

Nervous disturbances among the soldiers are so frequent during the present war that the medical department of the French army established very early special hospitals for such patients in the interior of France. Recently it has been found advisable to establish such special institutions also near the front. The authors describe such a hospital containing 150 beds. The hospital has several divisions according to the kind of nervous disease. Patients with organic or functional nervous diseases are placed in a pavilion containing several wards. Each ward is divided by partitions into small rooms containing two beds each. About twenty rooms in two separate pavilions are destined to receive patients with mental disturbances needing isolation. Two large tents placed in the yard receive the convalescents, especially those who have recovered from hysteria. One pavilion is specially devoted to wounded soldiers with injuries of the nervous system—wounds of the brain and spinal cord.

Hospital Statistics of the Province of Pavia (L' assistenza ospedaliera nella Provincia di Pavia). Dr. L. Dori. Arch. di scienze ospedal., Bergamo, 1915, V, No. 7.

The author gives full statistics of the patients treated in the hospitals of the Province of Pavia for the year 1914. Of general interest is the table which gives the number of patients treated at hospitals in various countries of Europe during the year 1907. In that year were treated in Italy, 16.50 per 1,000 inhabitants; in France, 18.34; in Germany, 27.87; in Austria, 22.70; in Hungary, 16.80; in the Netherlands, 7.84; in Sweden, 17.37; and in Norway, 10.71.

The Professional Struggle of the German Nurses in War and Peace (Berufskampf der deutschen Krankenpflegerinnen im Krieg und Frieden). Charlotte von Caemmerer. 8vo, München und Leipzig, 1915.

The author claims that the nurses in German hospitals are worked too hard. Continuous work for twelve hours is not rare, and Sundays and holy days are days of rest for the nurses only in exceptional cases. She holds that the working hours ought to be reduced by law. The three-shift system, as it exists in many hospitals of America and New Zealand, should be introduced. Any kind of work is less thorough if the working time is immoderately lengthened. Though the salaries of the nurses in German hospitals have been raised during the last few years, they are still too low. The author demands that the nurses' course be extended to three years; only thus, she says, can nurses acquire the necessary knowledge in order to properly assist the physician in difficult cases.

The Twenty-fifth Anniversary of the Kaiser and Kaiserin Frederick Children's Hospital at Berlin (Zum 25. Jahrestage des Bestandes des Kaiser und Kaiserin Friedrich-Krankenhauses in Berlin). Dr. A. Baginsky. Arch. f. Kinderheilkunde, Stuttgart, 1915, XXV, No. 2.

It is not so very long ago that few cities had special hospitals for children. Sick children were placed in special divisions of general hospitals, or frequently in the same wards with adults. Berlin, though far ahead of other cities in the establishment of hospitals and hygienic institutions, lagged behind in this respect just like other cities. It was the great mortality of children from summer diarrhea which first brought about a general discussion of the need of a special hospital for children. Under the leadership of Virchow a society was formed in 1883 for the purpose of collecting moneys for the establishment of such an institution. But the contributions came in very slowly, and in 1886 only 175,000 marks were collected. Then the Empress Frederick interested herself in the undertaking and contributed 500,000 marks. The city furnished the grounds, and, as more and more contributions were made, the construction of the new hospital was commenced in 1890. In the course of a few years six beautiful large two-story pavilions were erected. In 1901 the administration of the hospital was turned over to the city, which added four more pavilions and an administrative building. The hospital has at present 356 beds, but the space is so ample that the institution can easily place 430 patients. The hospital contains separate divisions for diphtheria, scarlatina, measles, whooping-cough, skin diseases, etc.

The American Hospital in Oppeln, Saxony. By A. G. Abrecht. Sonntagsbl. d. N. Y. Staats-Zeit., March 19, 1916.

In September, 1915, four American physicians, Drs. Hermann Fischer, Louis Brooks, Joseph King, and J. Mathesheimer, with a number of nurses, started for Germany to offer their services to the German army medical department. They were assigned to the reserve hospital at Oppeln, Saxony. This hospital consists of thirteen divisions, with 18,000 beds in all. Each division occupies a separate building. The American division, with 300 beds, is the largest of all, and is established in a large modern school building, which, with its wide stairways, large halls, ample rooms, its cooking school, etc., is admirably adapted for the purpose. Only seriously wounded are sent to the American hospital. The American surgeons have had great success so far; among several hundred operations the mortality did not reach 1 percent.

Architect John C. Chapman, of Sioux Falls, S. D., has been instructed to proceed with plans for the hospital which the Methodists of South Dakota propose to build in the city of Mitchell, that state, and it is expected that the contract for the erection of the building will be let in June. It is to be a three-story and basement fireproof structure costing about $60,000. Rev. G. T. Notson, of Mitchell, has directed the work of financing the institution.

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DEPARTMENT OF NURSING

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The University and the School of Nursing

Perhaps one of the most encouraging evidences of the advancement in nursing education is the ever-increasing number of universities under whose control departments or schools of nursing may be found. The universities maintaining schools, departments, or some courses in nursing are as follows: the universities of Colorado, Indiana, Iowa, Michigan, Minnesota, Missouri, North Dakota, Texas, and Virginia; the Columbia University, New York city; George Washington University, Georgetown, D. C.; Northwestern University, Chicago; Syracuse University, Syracuse, N. Y.; and the Washington University, St. Louis, Mo. The connection between the university and the school of nursing in the majority of instances, it must be admitted, is far from close, and the benefit of the connection is therefore limited.

The school of nursing of the University of Minnesota, opened in 1909, has the distinction of being the first school established on a somewhat similar basis as the other schools or departments of the university. It is under the jurisdiction of the medical school, with the superintendent a member of the faculty. The attitude of the university toward this school is significantly illustrated in a little incident mentioned by Miss Powell, the superintendent of the school. Miss Powell writes:

"In December we opened a new floor, which necessitated four more nurses than I had or would have until February. Four graduates were employed and put into the wards until our spring class came in. I have always been able to secure this kind of cooperation and assistance rather than to cut down hours after duty and to neglect classes."

The example of the establishment of the school of nursing as an integral part of the university has been followed by Washington University, St. Louis, Mo., and the University of Indiana. The superintendent of the latter school, Mrs. Ethel Clarke, presents the following interesting little sketch of the part this school takes in the Indiana University:

"The school of nursing of Indiana University at Robert Long Hospital is quite young, the first student being received on June 9, 1914.

"The school of nursing is an integral part of the university—one of its departments, just as the school of medicine, engineering, etc., are. The budget of the school goes to the Board of Trustees of the University, as do the budgets from the other departments, and the school of nursing receives its definite appropriation in the same manner that they do. The university is responsible for all the teaching given. The theoretical training is given especially under the direction of the Indiana University School of Medicine. The students go to the medical school for all work in bacteriology in order to have use of the laboratories. They also take the course in hygiene with the junior medical students. The domestic science training is under the department of home economics, and the theoretical and practical social work under the direction of the department of social service of the university.

"The hospital, which is modern and well equipped, with an active service, offers an opportunity for a thorough, practical training in surgical, medical, obstetrical, and children's diseases, thus making an excellent laboratory of both the school of medicine and the school of nursing. Being a department of the university, the entrance requirements are the same as for the school of liberal arts—a diploma from a commissioned high school.

"Students who have successfully completed a three-years' course in Indiana University will be given credit for the same and not required to duplicate any subject already covered. They will also have a time allowance of eight months made. If at the end of their training of two years and four months they have satisfactorily passed all examinations and hold good personal records, they will be entitled to the diploma of graduate nurse as well as to a bachelor's degree from Indiana University.

"Students are received into the school twice a year—on March first and September first. The preliminary course is given twice a year. The first four months the students are not on duty on the wards at all, except for supervised practice. The last two months of the six months of probation period are spent on the wards on regular eight-hour duty.

"It is preferred to take the students with college credit in the fall section, as it is found their work can be more easily adjusted at that time.

"The graduates of the school of nursing will receive their diploma with the students of the other departments at the annual commencement exercises of Indiana University held at Bloomington."

Miss Stimson, the superintendent of the school of nursing of the Washington University, St. Louis, promises to present shortly an account of the rather unusual opportunities that are being offered through the university and the new splendidly equipped general and children's hospitals that belong to the medical school, and also their very effective social service department. In this school, too, the time allowance of eight months is made for the college graduate and of six months for students who have taken the preliminary course at Simmons College or Teachers' College, Columbia University. It is obviously just that credit should be given and the practical experience in the hospital wards shortened for the college graduate.

The requirement of the full three-years' training following the college course has discouraged many college women from entering the nursing profession. The credit which these schools are giving has already appreciably increased the number of college women entering them. A not less important problem has not yet been solved—namely, the evaluation of the practical experience in the hospital ward, so that it may be correctly interpreted in terms of university credit. This subject is being studied in several schools, and we are awaiting the result with interest.

A. W. GOODRICH.

An Ideal Children's Service

BY HELEN WOOD, A. B., R. N.,
Late Superintendent of Nurses, Children's Hospital, Boston.

During the last decade the attitude of the medical profession has been directed very emphatically toward the field of preventive medicine. Neither the physician nor surgeon is content in curing disease; he must needs go back to study the cause of the malady and subsequently the eradication of disease even before its apparent existence. Moreover, the profession has called other scientists to its aid, and has shown to them their duty in the great propaganda of health. The result is the prominence of the public health officers and organizations, and the importance given to the education of the people, rich and poor, cultured and ignorant, wherever the need exists, in the great laws of physical well-being. As the child is "father to the man," and as in the study of prevention of disease attention is given to the importance of more and more remote causes of abnormality, so first the medical profession and then the public have awakened to the fact that a healthy man is likely to develop only from a healthy child, and, vice versa, a weak and sickly child does not stand a fair chance of becoming a strong and vigorous

adult—he is robbed of his birthright. The idea is not new—it is as old as the days of Spartan supremacy, but its scientific treatment is a modern accomplishment. Unlike the Spartan, we today would preach that it is the duty of the public as well as of the parents to see that the child is given the chance to live in a healthy body and with a sane mind. Hence have arisen the numerous institutions and associations concerned with the promotion of the health and the care of the child; and an increasing number of problems—economic, social, medical, and civic—are being referred to infant mortality, baby welfare, children's bureau, milk station, and hospital or other medical organizations. To these the nurse who knows and understands children, and who has been adequately trained in caring for them, may and should be a great asset.

Nursing, following in the footsteps of medicine, has also turned much more attention to the care of children, and its training schools are teaching the laws of prevention as well as the care of the sick—that it is even a greater thing to keep people well than it is to cure an ailment, and that the nursing of the child, be he sick or well, is a matter of grave importance, deserving of special training, not only for the temporary sake of the individual, but for the ultimate good of society. This sounds very ideal, but the increasing attention of the scientific care of children, from a nursing point of view, is conspicuous. Not many years ago many of our best schools of nursing did not pretend to give their pupils any systematic training in the care of children. Today it is required by law in some states that nurses shall be given this experience, and all interested in the education of the nurse are convinced that no school gives a complete course that does not include in its curriculum some systematic instruction in pediatric nursing.

With this growing need in our schools in view, we have tried to outline what would be in a three-years' course in nursing an adequate course in the care of children. We should not call the plan ideal, for fear some may think we have forgotten the practical and are reveling in dreams; but we have tried to plan a course that should be possible of development in almost any large hospital having a children's department. There are advantages in giving the training in a hospital exclusively for children; but it can be done much more generally, more economically, and probably in a better relation to other branches of nursing, if given in a children's department of a general hospital, provided such department is large enough to present a good clinical field. Such, then, is the type of hospital in which we shall plan a children's service for the training of nurses.

No nurse should plan after graduation to specialize in children's work without at least six months' systematic training in the subject; this, however, seems a disproportionate amount of time in a three-years' course. Consequently the undergraduate service may be planned for four months (a minimum)—eighteen weeks according to the following outline—with an added two or four months' post-graduate work for those who wish to specialize in certain branches.

The outline of the course shall be as follows:

1. Six weeks medical work, including practice in computing and making milk modifications.
2. Six weeks surgical and orthopedic work.
3. Six weeks dispensary and visiting or follow-up work.

The post-graduate course shall comprise:

1. One month contagious nursing or medical night duty.
2. One month public health and social service nursing.

Optional—Three months executive work as head nurse or two months public health work.

These last two are to offer added experience on a small salary for those who wish to continue the course.

The eighteen-weeks' course may by some be considered too short a period for satisfactory experience, but let such remember that it is intensive work built on a good general groundwork. The service should not be given the nurse before the last of her second year of training, when she shall already have received her routine medical and surgical training, and have completed her courses in dietetics and materia medica. It is also most advisable that her children's work should follow her training in obstetrics. One of the great drawbacks to the equipment of nurses taking care of sick children is that they have made a speciality of abnormal conditions when they know far too little about the normal. The result is shown particularly in private nursing. When the child is critically ill, the nurse has the situation under control; but during convalescence, or with a chronic case or a well child, she is at a loss to realize her responsibility and opportunity. Unless she has dealt with children outside of her hospital training, the hospital has taught her nothing of the normal child. In this we have failed very markedly in planning courses in the nursing of children. We believe, however, this difficulty may be overcome, and for this reason the course in obstetrics, with its opportunity to learn by the teaching of and by experience with the normal infant, should precede the special training in the care of sick babies. Another point to be considered in regarding the intensity of this special course is whether the nurse shall have any care of children in other departments of the hospital. She may possibly have it in the private ward *after* her regular children's service. From neither economic nor educational points of view does the private patient duty combine well with the organization of ward routine; and, moreover, private work in itself is a special field to be considered in the latter part of a nurse's training. As to operating experience—again from a consideration of administration—this, too, is better to be combined with general work; and the nurse will therefore have her children's service further supplemented in the operating room. In the preliminary course of the training school, most hospitals plan for the probationer to spend some time each day on the wards. Here, again, is another opportunity that the very young nurse may at least be initiated in the handling of children.

To return to a more detailed description of the service:

1. *The Medical Service.*—In spite of the fact that this is by far the most critical of the three groups of cases (medical, surgical, and orthopedic), it gives the best field for the teaching of nursing procedures, most of which should be by bedside instruction in small sections in the wards. Because of frames, casts, dressings, and wounds, the last two groups of cases do not give the nurse good experience in handling children, nor do they give as great opportunities for the various kinds of treatments to be taught. And it must be remembered that the nurses beginning this course have had at least a year and a half in general nursing, and so from the first can be relied on in more critical situations than if her training were beginning here in the children's wards. During this first service the first half (three weeks) should be under careful supervision and personal instruction by a supervising teacher, whose work will be supplemented by the graduate nurse in charge of the ward, or, if the service be large, by an assistant instructor. This should be a concentrated period in demonstration and practice. During the remainder of her medical duty, which we may call her senior duty, the nurse is left more to herself, with the exception of a part of each morning which she will spend in the food

room in connection with the ward, where the milk modifications (the theory of which has already been studied in the course in dietetics) are prepared for the babies. Here every effort should be made to keep the routine from being mechanical. The pupils should be able to work out any percentage feeding that may be ordered before attempting to put up any formula, and the most scrupulous technic of details should always be insisted on. By these nurses should the calorie charts of all the babies be kept, and these same babies, when on the medical service, should for the time being be their special charge. Although a pupil always depends on a doctor's order for a formula, she should be taught in caring for a baby, and observing his weight, stools, and general behavior to recognize the various forms of indigestion, and know to what extent such may be regulated by the proper modification of a milk diet.

2. *The Surgical and Orthopedic Service.*—During the next six weeks of the course the instruction is less intensive—is more a special modification of procedures already learned in adult work. As previously, the nurse acts as a junior pupil for the first three weeks, and as a senior, with greater responsibilities, the latter half of the period. Her senior service on the surgical and orthopedic wards may be spent in night duty.

3. *Dispensary and Visiting Service.*—The last period of the undergraduate course is spent in the dispensary or out-patient department, in the morning attending the various children clinics, perhaps spending one morning each week in the various departments—i. e., medical, surgical, orthopedic (including corrective work), nose and throat, eye and ear, skin and nerve. This should be arranged according to clinical material. The afternoon should for the most part be spent in follow-up work in the homes of the people, where the nurse meets again her patients of hospital or dispensary under much different surroundings, and her picture of the case for the first time begins to assume proportions of completeness, where the hospital experience is proved to be but an incident (important, though, it is) in the greater and real picture of cause and effect, involving its multiplicity of human and social problems. In visiting her patients the nurse has many opportunities to test her powers of observation. She detects latent trouble in other children, learns to trace the cause of disease much nearer to its beginning, studies home hygiene and sanitation first hand, and begins to be a teacher herself as she shows the mother how to dress a wound, or the little sister how to care for the baby. This combination of morning and afternoon will open the student's eyes to the larger field for which she is preparing; and, if she is to continue this course by post-graduate work, she will now be making her decision. We are at present advocating this follow-up work from the point of view of the training of the nurse, but it is not out of place to call attention to its advantage both to the patient and to the hospital. The patient continues under the same advice and care which began his cure, and the hospital has its records completed in a way that would be improbable were the case to be dropped or even transferred to another organization. The above is not the nurse's only dispensary work; it is but one department in the general hospital out-patient plan. Consequently the period must be so planned that none of the general work which the pupil has had or is to have will be duplicated in her children's service.

4. *Post-graduate or Elective Work.*—No allowance has apparently been made for night duty in the medical wards, where the pupil's duty was begun. The first six weeks come far too early in the service to give a pupil what is probably the most responsible period of the whole training. Lacking the supervision existing during the day, these patients—generally the most critical in the hospital—should be left in the hands only of those ably equipped by training and tried judgment for the responsibility. Therefore we would offer the opportunity of night duty in these medical wards to those post-graduates who wish further medical experience—there is none better. Provided she does not wish this night work, the nurse may substitute for it a month of duty in the contagious ward, which we have not included in the regular prescribed course. The second month of graduate work should be definite instruction, observation, and experience in the public health field. Since this should be made adaptable to the needs of the individual in a way not necessary in the case of the undergraduate, we shall not elaborate on its details more than to say that the month of public health nursing should include in theory—and in practice when possible—rural and city nursing, children's institutions, school nursing, milk stations, dental, tubercular, and other special children's clinics. It should be under the general direction of the training school, but its special instruction intrusted to the various public health organizations in the city, which shall have some formal affiliation with the hospital and training school in question. This graduate course should be so elastic that, if desirable, the nurse may extend her experience for two or three months further. If her bent is in institutional lines, an opportunity of head nurse in one of the children's wards should be available; but, for the sake of the hospital, this should not be for less than three months. If she tends toward the public health field, there should be an opportunity for practice work under some of the various organizations under which she has just had two months of observation and instruction. The last two appointments should be on salary.

There will be no difficulty in obtaining post-graduate applicants. The demand for such work is far greater than the opportunities open. If these applicants have never had any children's work, they should be allowed to enter only as pupils for the whole course. If they have had sufficient children's work, they may register for only the work designated as "elective." The arrangement for post-graduate work in the department for graduates of other institutions should be given due consideration and attention. It is the duty which the large hospital with an adequate children's service owes to the profession and to the public.

The Staff.—Whatever the size of the hospital, if it be large enough to adequately equip a children's department, the size of the nursing staff would remain fairly constant. The medical and surgical wards should each be in charge of a graduate head nurse specially qualified in that particular phase of the subject, who shall consider herself a teacher as well as an executive. The graduate in charge of the dispensary should have at least one graduate assistant (more if the clinics are very large), this assistant to have the oversight of the visiting work and the work in any of the outside affiliations necessary in the elective course. All the officers will be directly responsible to the supervising nurse, whose chief business is the instruction of the pupils in the children's department. Should the school be large, the chief supervisor will need an assistant to take over some of the routine bedside instruction, the follow-up work with the pupils on the ward, and the immediate supervision of the food room. The night supervisor of this department may be the assistant of the general night supervisor of the hospital; but with this one exception, the above-named people have no responsibility elsewhere in the institution than in this one department.

Method of Instruction.—A demonstration room to be

used as a class room is always desirable, but can never take the place of actual bedside instruction. Its use has developed from the inexpediency of teaching wholly by illustration in general wards. This objection is fortunately removed in a children's ward, and consequently most of the instruction may and should be carried on in the best laboratory available—by the bed of the patient. The instructor should be allowed enough time and assistance to have this done in small groups of students.

The theoretical work, given chiefly in lecture form, may be divided into five groups as follows, each group representing one lecture period a week:

A. *Medical*—Twelve weeks.
1. Infant feeding.
2. Infant feeding.
3. Gastrointestinal diseases (malformations and mechanical disorders, new growths and traumatic diseases).
4. Gastrointestinal diseases (forms of indigestion and infections of the gastrointestinal tract).
5. Respiratory diseases.
6. Diseases of the new-born.
7. Heart and circulatory diseases.
8. Nephritis and diabetes in children.
9. Acute infaction diseases (typhoid, meningitis, tuberculous, etc.).
10. The exanthemata and so-called "contagious" diseases.
11. The exanthemata and so-called "contagious" diseases.
12. Normal excretions of the body. A special study of stools and urine, with pathological changes apparent in disease.

B. *Surgical and Orthopedic*—Twelve weeks.
a. Surgical—Six lectures.
1. Congenital deformities (hare lip and cleft palate, spina bifida and hydrocephalus).
2. Hernia (types and causes, use of trusses, general systems of operations).
3. Malformations (pylorus stenosis, obstruction, imperforate anus).
4. Genitourinary deformities.
5. Fracture and dislocation.
6. Abdominal injuries (peritonitis, acute intestinal obstruction, intussusception).

b. Orthopedic—Six lectures.
1. Deformities due to tuberculosis (treatment and general care).
2. Congenital malformations and deformities (dislocation, club feet, etc.).
3. Deformities of the spine (Pott's disease, curvatures, etc.).
4. Diseases due to faulty nutrition (rickets, knock-knees, bow-legs).
5. Infantile and other paralyses.
6. Corrective work (use of Zander, exercises and massage; special splints and other apparatus used for children).

C. *Hygiene and Special Therapeutics*—Twelve weeks.
a. Child hygiene and psychology—Eight lectures.
1. Necessary qualifications of those who care for children.
2. The physical examination of the normal child (general appearance and characteristics, standard weight and measurements).
3. General hygiene of the child at different ages (normal dentition and its complications).
4. General hygiene and sanitation of the nursery and school room.
5. A normal day's program (regulation of meals, exercise, sleep, clothing, out of doors, and general environment).
6. Habits (how to deal with pernicious habits).
7. The psychologic and therapeutic value of play.
8. Differentiations in the stages of childhood, with special discussion of the adolescent boy and girl.

b. Materia medica as applied to children—Four lectures.
1. A review of those drugs used especially in children's diseases (comparative susceptibility or resistance to drugs, Young's rule of dosage, idiosyncrasies).

D. *Nursing of Children*—Twelve weeks.
1. Bedmaking and the handling of bed patient.
2. Baths—cleansing and therapeutic (care of the skin and scalp, treatment of pediculosis).
3. Enemata and rectal irrigations (gavage, lavage).
4. Temperature, pulse, and respiration in children (care of special precaution and isolation cases).
5. Symptomatology.
6. Symptomatology.
7. Clothing (restraining children, keeping on of dressing, bandages, restrainers, cuffs, mittens, frames, etc.).
8. Preparation for operation (care of ether and post-operative cases).
9. Care of special surgical cases (drained wounds, hare lips, and cleft palates).
10. Care and handling of orthopedic cases.
11. Constant drainage (catheterization, collection of specimens for pathological and bacteriological study).
12. Use of counter-irritants in children.

E. *Special Lectures*—Sixteen weeks.
1. Emergencies of childhood (emphasis on home treatment).
2. Diseases and treatment of the eye.
3. Diseases and treatment of the ear.
4. Diseases and treatment of the nose and throat.
5. Specific diseases in children.
6. Mental defects (idiocy, imbecility, cretinism, mutism).
7. Schools and institutions for mental defects.
8. Mental hygiene (the care of the abnormal child in normal surroundings).
9. Infant mortality (statistics and organizations).
10. The racial significance of the child (heredity and eugenics).
11. Isolation and disinfection.
12. Dental clinics and dental prophylaxis.
13. Occupations and amusements for children.
14. School nursing.
15. Milk stations.
16. The board of health and its relation to child welfare.

Groups "A" and "B" should be given by doctors, "D" by the supervising instructor, and "C" by whoever at the time is best fitted. We have previously called attention to the deplorable lack of attention given to the knowledge and care of the normal child, and it is to meet this need that the first eight lectures of group "C" are planned. In "B" the orthopedic will follow directly after the surgical lectures, making together a course of twelve lectures. According to this plan the nurse will have five lectures or classes a week for twelve weeks, course "E" alone extending to sixteen weeks, leaving the last month fairly free from class work for the final examinations. The five groups as outlined are as lecture courses, with the exception of course "D." This would be better conducted as recitations—a supplementary review of the daily instruction on the wards. The student should have free access to a good reference library, and be obliged to use it. At present there is no distinctly good book on children's diseases from the point of view of a text-book on nursing, but we thoroughly advise choosing the best there is, and using it for recitation purposes.

The Administration of such a course is most difficult when we wish to have all sections running equally smoothly, with no overbalance of untrained nurses that may be detrimental to the patient's welfare. First of all, let us recall that the youngest nurse in the service has had one and one-half years of general training. We shall consider the eighteen weeks allotted to this children's service divided into three-week periods, with a new group of pupils beginning at each period. When the first class has completed its three weeks of junior work on the medical ward, it passes on to senior medical duty, and a new junior class enters. At the end of another three weeks the senior medical becomes the junior surgical and orthopedic, the junior medical becomes the senior medical, and another new class enters as juniors in the medical wards. Thus it will be in these medical wards that we have the youngest nurses of the services, and consequently the more intensive teaching, and the more careful supervision of both nurses and patients by supervisors and instructors.

The next question of importance, although not second in difficulty of arrangement, is the assignment of theoretical work. Group "D," in charge of the instructor or supervisor, should be begun as outlined with each entering class—i. e., every three weeks. This will mean that the

instructor will be giving the same course to six different classes at the same time. The other courses—purely lecture—will be self-repeating; and the pupil enters the course, whether it be lecture 1, 6, or 12, when she begins her children's service, and continues for the twelve lectures (sixteen in course "E"), which will complete the group. For some classes this arrangement will give a slightly illogical sequence, but need cause no special lack of efficiency if the small group instruction on the wards is ably handled and well correlated.

It will be seen that when the lectures of courses "A," "B," and "C" are being given, all the pupils have left the wards; therefore they may be given at such time of day—three days a week—when the dispensary nurses who have finished their twelve weeks of lectures may substitute on the wards, or relief may be sent from other parts of the hospital by nurses who have previously had the children's service. Since all the pupils will be attending the lectures of group "E" at the same time, it will be found more convenient to hold these lectures in the evening (once a week). The night nurses in the surgical wards will be obliged to miss three of this course, but, since they will still be in the hospital sixteen weeks later, they may arrange to attend these same lectures at the later date.

In review let us picture a concrete example as an illustration:

General hospital, 250-300 beds. Children's service, 72 beds. Medical service, 36 beds. Surgical and orthopedic, 36 beds.

Pupils entering in classes of six every three weeks. Assignment—12 pupils on medical wards (6 junior, 6 senior). All pupils on day duty. Post-graduates on night duty, 3. Ratio day nurses to patients, 1:3; ratio night nurses to patients, 1:12.

Twelve pupils on surgical and orthopedic wards, 9 day nurses (6 junior, 3 senior). Night nurses, senior pupils, 3. Ratio day nurses to patients, 1:4; ratio night nurses to patients, 1:12.

Total pupils on ward duty, 24; total pupils dispensary and visiting (6 juniors, 6 seniors), 12-36 pupils in children's service.

The Nursing Care of the Insane in the United States[1]

A REPORT PREPARED BY KATHARINE TUCKER, R. N.,
Chairman of the Committee on Care of the Insane of the American Nurses' Association.

When we consider that there are approximately 200,000 patients suffering from mental diseases being cared for at present in hospitals for the insane in this country, we realize to some degree the extent and importance of the problem. It is very pertinent for us as nurses to ask what part the nursing profession is playing and what contribution it is making in the care and prevention of this most prevalent sickness. At the outset, I think we have to admit that as a profession we are only just beginning to see our opportunity and to hear a very faint call for our services in this field from the doctors and the public. Your committee, all of whom are directly connected with some form of work for the mentally ill, feel very strongly that the time has come when nurses must take their place in the forward movement for the adequate care and ultimate prevention of mental diseases as they have in the tuberculosis and infant welfare movements. As a first step in this direction, it was deemed necessary to know the exact present status of nursing the insane in this country. Though printed questionnaires are in many ways so unsatisfactory, one carefully prepared may bring forth most illuminating information, and this seemed the only practical way at this time of gathering together the facts we desired.

Through the hearty cooperation of the National Committee for Mental Hygiene your Committee on the Care of the Insane is able to report on the result of a questionnaire sent out to all the state hospitals for the insane in the United States. The questionnaire was made out by your chairman in collaboration with Dr. Thomas W. Salmon, director of special studies of the National Committee for Mental Hygiene, which committee assumed the entire expense. Your committee's report consists in a summing up of the material obtained from this questionnaire. From 154 questionnaires sent to state hospitals, 71 answers have been received. Though this is not even half of the number sent out, the answers are sufficiently typical for us to draw conclusions from them in regard to all of the state hospitals for the insane in the country.

In the 71 hospitals heard from, 30 of them have no training schools at all for nurses, all the work being done by attendants. Therefore the figures that follow will relate to the 41 state hospitals where there is a training school.

It was surprising to note that, in the majority of the state hospitals where there are training schools, these have been organized for over ten years, and many of them for over twenty years. This fact is discouraging, viewed in connection with their standards. In 16 of the training schools the course is two years, in 10 it is three years, and in the others it varies between two and three years. In certain of the hospitals the training school makes a distinction between nurses who will be eligible for their R. N. and those who will not. A course of three years is required for those who are eligible, while only two years is required for those who are not. This is certainly paradoxical, as those who have had the least preparation for entering the training school would certainly seem to need the longest course. Such a variation would not tend to raise the standard of the school as a whole. Two or three other schools have the nurses' training tacked on to the course for attendants as a six-months' post-graduate course.

In the hospitals for the insane the superintendent of nurses often holds a most anomalous position. In 14 hospitals she is not allowed the title of superintendent of nurses, but is called either assistant principal or principal of the training school, or more frequently simply the chief nurse. Though at first this may appear an insignificant fact, it does seem to take away from the dignity of the position, and further facts bear out this feeling. The training and experience of the superintendents vary. The largest number are graduates from a hospital for the insane and have taken a post-graduate course in a general hospital. Eight had previous training and experience only in a hospital for the insane, while an equal number had experience only in a general hospital. In one training school the superintendent was a woman physician, and in four the medical superintendent of the hospital acts also as superintendent of the training school. Their salaries vary from $50 to $100 a month, the majority being $75 and $100, but in eight hospitals the superintendents of nurses receive less than $65. Quite often the superintendent has to act as head nurse in the operating room, and in one instance as occupational instructor, besides her other duties.

In practically all of the hospitals it is noticeable how little complete authority is given to the superintendent of nurses. In only a few cases has she control of the hours of the pupil nurses, and in many instances she has no control over the classes or assignments. In but 14 state hos-

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Unfortunately, Miss Tucker's report on "The Nursing Care of the Insane in the United States" was intended for the April number, and the point which Miss Goodrich wished to make in her editorial reference to it was lost. Miss Tucker's report is full of meat and it should be carefully studied.

pitals has she complete charge of the pupil nurses in these ways. In the other hospitals, classes, assignments, and hours are either entirely under the direction of the superintendent of the hospital or partially so. Though the charge nurses are a very important part of the nursing equipment of the hospital for the insane, in 14 hospitals the superintendent of nurses has absolutely no authority over them and in eight hospitals her authority is only partial. The same condition is found as to attendants even to a greater degree. The tendency seems to be to relegate the duties of the superintendent of nurses to the limited field of the training school, in which there may be but a few pupils, rather than to supervise those giving nursing care to the mentally ill throughout the institution. In very few instances does the superintendent have any authority over male attendants or nurses. When she does have it, it is principally in connection with the class work of those taking the training school course. To be sure, the training schools, as such, in state hospitals are comparatively small, the majority not having over 25 pupils, and many having between 10 and 15. There is, however, a large group of attendants and charge nurses, exclusive of pupils, in most of the hospitals, this number being between 60 and 100, several having as many as 300 or 400. Thus the superintendent of nurses has little or nothing to do with the greater part of the nursing service given to the patients.

The qualification for admission to these training schools varies greatly. The majority ask for only a grammar school education, though 13 require grammar school and one year high school or its equivalent. Three have no requirements whatsoever, and in many others the requirements are decidedly flexible. In 21 of the hospitals their requirements for admission are the same, or equivalent to the requirements in the general hospitals in their state. Very few hospitals had a higher age requirement than 18. When it is considered that no nursing requires greater tact, maturity, and judgment than nursing the mentally ill, this low age requirement is particularly significant. Usually the superintendent of the training school accepts the applicants, though in 13 hospitals the superintendents of nurses decide what pupils are suitable for the training school. The pupil nurses are paid anywhere from $15 as a minimum to $35 as a maximum, though the usual rate is $20 as a minimum to $25 as a maximum.

The situation in regard to hours of work, vacation, etc., of pupil nurses in state hospitals is one of the most serious aspects of this whole question. Though six of the training schools have the eight-hour system, in almost all of the other 35 hospitals the nurses are actually on duty from twelve to fifteen and one-half hours out of every twenty-four. To one who knows the strain of working with mentally sick patients, this statement is appalling. A few hospitals give absolutely no time off a week, even with these long hours. Two weeks' annual vacation is almost the rule, though three give only one week, and five give ten days. Very few give any extra time off on holidays.

As to the actual curriculum of the training school, practically all say they attempt to approximate a general nurse's training. The probationary period varies from six weeks to six months, most being two or three months. One hospital has no probationary period at all, 13 of the hospitals give both practical and theoretical class work during the nurse's probation, but in the others it amounts to little more than direction in their practical ward work. Four hours a week theoretical work throughout the year, with the exception of the summer, is the average. The lectures are given for the most part by the regular medical staff and superintendent of nurses, though in six hospitals the classes are entirely in the hands of the medical staff. Three hours' practical work is the average, and this work is usually given entirely by the superintendent of the training school. The lectures given cover, as a rule, the following subjects: anatomy, physiology, materia medica, practical nursing, surgical nursing, obstetrics, nervous and mental diseases, hydrotherapy, bacteriology, urinalysis, and a few give dietetics. Only 18 out of the 41 hospitals where there are training schools are affiliated with general hospitals for obstetrics, surgery, and children's diseases. This means that the nurses in state hospitals in most instances have no experience in general nursing, except with comparatively few patients.

In the answers received in regard to the housing and recreation facilities for the pupil nurses we find one of the explanations for the reason that so few women take up mental nursing. In 12 of the state hospitals the nurses have rooms off the wards of the patients, and in nine other hospitals they are housed in dormitories in the hospitals, in the administration building, or in separate quarters for them in the hospital building. Only 19 hospitals have nurses' homes. In 22 hospitals anywhere from two to four nurses room together, there being only 13 hospitals that afford separate rooms for their nurses. The majority of pupil nurses have no separate dining rooms, having to eat in the same dining room with the patients—sometimes at the same time, or before or after the patients have eaten, or else the nurses eat with the attendants and other employees of the hospital. Many hospitals make no provision whatsoever for the nurses to receive callers, and in the majority of cases they have to receive their friends in the public or general reception room. Five hospitals have tennis courts, one a golf link, and many afford an opportunity for dancing, but nine hospitals make no provision whatsoever for recreation. To be sure, considering their hours of work, little time is afforded them for anything but work and some sleep.

Considering these facts, it is not surprising that 23 hospitals tell us that they have difficulty in securing suitable or enough pupil nurses. Those that state they have no difficulty, considering what most of them offer, make us seriously question their idea as to suitability. One superintendent writes that there has been no difficulty in securing nurses since the recent business depression. Cause for humor might be found in the explanations of the superintendents as to the reasons for this difficulty were it not so tragic. Only two of the number see any responsibility on the part of the training school or hospital for this condition. These two feel that long hours and undesirable living accommodations have something to do with it. From the standpoint of the others the nurses are to blame. One gave the answer that the scarcity was due to lack of seriousness on the part of the younger generation and indifference as to their future prospects. Many state that women do not wish to nurse the insane. The most frequent answer as to the grade of pupil nurse is that she is fair. Poor education is the greatest drawback mentioned, though some hospitals frankly state that both as to education and personality they cannot get the proper type of women. In a little less than one-half of the training schools the nurses are eligible for the examination for registration. From all these 41 training schools, out of the last class graduated, 64 nurses have received their R. N.

Suggestions were asked as to changes that would be recommended. The majority had no recommendations to make in spite of what seem to be most serious conditions. Higher pay, higher educational requirements, affiliation

with general hospitals, shorter hours, and a sharper distinction between nurses and attendants were the most frequent suggestions. Other interesting remarks were the need of an extension of training school throughout the whole hospital, more women in the male wards, exchange of pupils with general hospitals, and a larger teaching force.

There are other noteworthy points. In by far the majority of the hospitals the training school for nurses does not extend beyond what is known as the hospital wards—that is, the wards where the mental patients are treated for some physical illness; in other words, even yet the doctors themselves, to say nothing of the nurses and the general public, have not realized the great contribution nurses can make in caring for those suffering from mental disease. In many instances the training school seems to be merely offered in order to encourage a better class of attendants to come to the hospital by calling them nurses and giving them some definite training. Some of the superintendents did not seem to discriminate between a training school for attendants and a training school for nurses, and certainly recognized no distinction between the service that might be offered by these two groups, except in respect to the care of the physically ill.

In brief, the following conclusions can be drawn from these figures and facts obtained through the questionnaire:

1. Less than two-thirds of the state hospitals in the United States have a training school for nurses, which, interpreted, means that less than two-thirds of the state hospitals give trained nursing care to the patients within their walls. Even in the hospitals that have training schools, only about one-sixth of the patients receive care from the nurses; in other words, the nurse plays a very small and unimportant part at present in caring for this large group of patients.

2. Speaking generally, the reason for this is that neither doctors, nurses, nor the public have felt the need of nurses in that branch of medical work. Nurses themselves have not been free from the general prejudice in regard to the insane.

The present status of training schools in state hospitals is as follows:

1. The importance of the position of the superintendent of nurses is not recognized. Not enough previous training and experience is required; her salary is too low; she has little or only divided authority in regard to the training school; her jurisdiction is too limited in scope, as it should include supervision of all those giving nursing care with the view to greatly increasing the number of trained nurses and decreasing the number of attendants.

2. The requirements for admission to the training schools are too low, especially as to age and education. These should correspond to the general hospital.

3. The hours are far too long. In this branch of nursing especially an eight-hour day is essential, and at least three weeks' annual vacation.

4. In most instances the curriculum is not sufficiently well rounded. This should correspond to the curriculum of general hospital training schools.

5. Less than two-thirds of the state hospitals affiliate with general hospitals. Every state hospital should affiliate with the training school of a general hospital as part of its regular course and vice versa. The general hospital training school should be ready and glad to give this cooperation.

6. The living conditions of the nurses in state hospitals is most deplorable and one of the most serious defects. In a large number of the state hospitals the nurses live off the wards of the patients, eat in the same dining room, and have little or no opportunity for recreation. Due to the difficult nature of the work, particular attention should be given to the comfort and recreation of the nurses and to the possibility of their getting entirely away from their work when off duty.

Your Committee on the Care of the Insane would recommend the following as to the next steps for this committee to take:

The formation in each state of a special committee on the care of the insane, preferably to be called a Committee on Mental Hygiene, these local committees to be formed in connection with the state nursing organization. The Committee on Mental Hygiene of the National Organization of Public Health Nursing in its 1914 report also reported the desirability of forming state committees on mental hygiene. Therefore your committee would recommend that the organization of these local committees be carried on in cooperation with this other committee on mental hygiene. It should be the duty of these state committees to know the conditions in their state relative to the nursing care of the insane. They should bend their energies to raising the standards of the training schools in their districts, and to establish training schools where these do not exist. Every possible assistance would be given them by the national committee. Such a program means education, particularly among nurses themselves, for until nurses see their opportunity they can scarcely expect the doctors and the general public to recognize it.

THE NEW DISINFECTION

Soap and Water Are the Best Cleansers—Experiments at Mount Sinai Disprove Alarmist Views as to Spread of Infections

The farmer's wife who refused to waste money on chemical disinfectants, and who stoutly maintained that soap, hot water, and "elbow grease" were the best of all cleansers, is justified in her opinion by a recent statement in the New York Health Department Bulletin:

"Health officials have come to learn that much of the so-called room disinfection heretofore practiced during and after infectious diseases was unnecessary, and are placing their main reliance on mechanical cleansing with soap and water, followed, if possible, by sunlight and fresh air. The manufacturers of disinfectants, on the other hand, often make alarming and misleading statements concerning the mode of spread of infectious diseases. Thus the suggestion was recently made that 'during the course of such diseases as typhoid fever the germ can be recovered without difficulty from horizontal surfaces near the bedside.' In order to test the validity of this statement and the need for the suggested action, the bacteriological division of Mount Sinai Hospital recently undertook a careful investigation, during the course of which more than forty cultures were made. The results were uniformly negative so far as the presence of a motile bacillus or any bacillus resembling the bacillus of typhoid fever was concerned."

The city of New Orleans has accepted a donation of $200,000 from Mrs. Eve Christine Dibert, widow of John Dibert, millionaire lumber manufacturer, for the erection and maintenance of a tuberculosis hospital as a memorial to her late husband. Fifty thousand dollars will be expended on buildings, and the construction work will be started at an early date. The hospital will be established and managed by a board of trustees composed of Mrs. Dibert, Mayor Martin Behrman, Harold W. Newman, P. H. Saunders, Marcus Walker, Ernest T. George, and Charles T. Theard. An ordinance obligating the city to appropriate $10,000 annually toward the maintenance of the institution has been passed.

DISPENSARY AND OUT-PATIENT WORK

Conducted by MICHAEL M. DAVIS, Jr.,
Director of the Boston Dispensary.

Please address items of news and inquiries regarding Dispensary and Out-Patient Work to the editor of this department, 25 Bennett street, Boston, Mass.

Pay Clinics—A New Departure in a Great Hospital

Dr. S. S. Goldwater, superintendent of Mt. Sinai Hospital, New York, has proposed to his trustees the establishment of a system of pay clinics to be conducted in the out-patient department of Mt. Sinai Hospital. The following plan is tentative, and has already been the basis of much discussion in medical and in lay circles in New York city. It is printed in this department of THE MODERN HOSPITAL in order to bring it to the attention of hospital authorities in other cities and stimulate discussion. Its importance will be recognized by all, whether off-hand opinions be favorable or otherwise.

TENTATIVE PLAN FOR A PROPOSED "CLINIC FOR PAYING PATIENTS," TO BE CONDUCTED BY THE MT. SINAI HOSPITAL OF NEW YORK BY ARRANGEMENT WITH A GROUP OF SPECIALISTS.

The clinic will be established in the belief that there exists in this city a need for pay clinics, where ambulant patients who do not seek and who are not entitled to free advice and treatment may, with confidence, consult reliable specialists, without being called on to pay such office fees as prevail among recognized specialists in this city and as are beyond the means of the patients of the class referred to.

(Incidental to the inauguration of clinics in certain special branches of medicine and surgery, it is proposed to undertake the organization of a department for the prevention of disease. The method to be followed in this department will be that of the periodic examination of individuals for the early detection of morbid tendencies, with a view to the prevention or postponement of constitutional disorders.)

The clinic will endeavor to confine its aid to persons having incomes of $1,200 per annum or less.

Patients requiring hospital care will be directed to hospitals as paying patients (not necessarily for admission to private rooms, since the means of the class which the clinic aims to reach will, as a rule, be insufficient to meet private room charges).

Patients will be admitted to the clinic on weekdays from 7:30 to 9:00 p. m.

There will be a registrar, whose duty it will be to receive applicants, to reject persons not eligible for treatment, to keep the social, financial, and business records of the clinic, and to collect and account for all fees.

The receipts of the clinic shall be first applied to defray the administrative expenses of the clinics (Mt. Sinai Hospital contributes the use of the dispensary building, but not the special maintenance costs directly arising from its use by the clinic for paying patients).

All surplus earnings shall be divided among the members of the medical staff in proportion to their hours of attendance.

The standard fee for routine or office consultation in the clinics will be $1.

Medicines may be prescribed, but will not be furnished by the clinic. Prescriptions are to be given to patients to be filled elsewhere, as in private practice.

Besides treating patients who come to the clinic of their own accord, or who may be referred by physicians for routine examination and treatment, the members of the staff will be prepared to see patients at the clinic, in consultation with general practitioners. It is presumed that cases presented in this way will be such as require unusually careful and complete examinations; the fees to be charged for this consultation work will, therefore, be higher than the regular fee of $1 for routine examinations, and may be arranged between the practitioner presenting the case and the clinic physician consulted; such special fees should ordinarily be not less than $2 nor more than $3, and in no case should they exceed $5. Fees so earned are to be credited to clinic receipts.

The equipment of the Mt. Sinai Hospital dispensary (day clinics) will be placed at the disposal of the pay clinic. If the pay clinic prospers, special and exclusive equipment may be purchased later. The cost of such special equipment shall be defrayed out of the earnings of the clinic, each department to pay its own way.

Pay Clinics in Brooklyn Hospital[1]

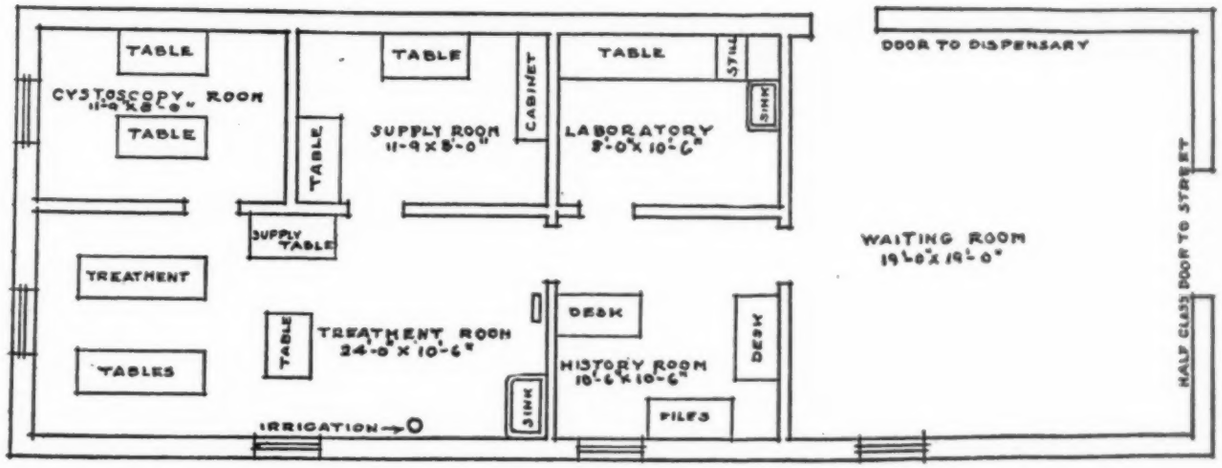
I shall outline in a general way our experience at the Brooklyn Hospital Dispensary with our genitourinary pay clinic, the first of its kind to be established in Greater New York. We can claim no originality for the idea, having but followed in the footsteps of that most progressive dispensary executive, Mr. Michael M. Davis, Jr., of Boston.

In starting our pay clinic, the Brooklyn Hospital board was actuated chiefly by two motives—first, to increase the efficiency of the dispensary as a plant; second, to do, in a broader way, medical work among a class of society which is spreading disease in the community and being exploited by the quack.

The average dispensary, considered as a business plant or human repair shop, is run on a most unbusinesslike basis. What manufacturer with a factory and equipment worth $150,000, which is the capital value of our new dispensary, would operate it from two to three hours a day, or from 20 to 30 percent of its possible efficiency? To overcome this condition and make our plant yield larger dividends in social welfare, we decided, as an experiment, to open an evening pay clinic, and selected the genitourinary department as the logical starting point. The idea met with a most enthusiastic reception from the genitourinary staff. Naturally, some criticisms and objections based on medical ethics and policy had to be met and overcome, but these were not serious and our clinic was opened August 1, 1915.

Our dispensary quarters are adequate. We have a large waiting room, with a separate street entrance, a history room, cystoscopy room, and two treatment rooms. Our clinical staff consists of a chief, two chiefs of division, and ten assistants, and operates in two sections—Mondays, Wednesdays, and Fridays, and Tuesdays, Thursdays, and Saturdays—the same physicians attending both day and evening sessions. Our day clinic has been giving free

[1]This is a paper read by Mr. Neergaard before the February meeting of the Society of Sanitary and Moral Prophylaxis of New York.



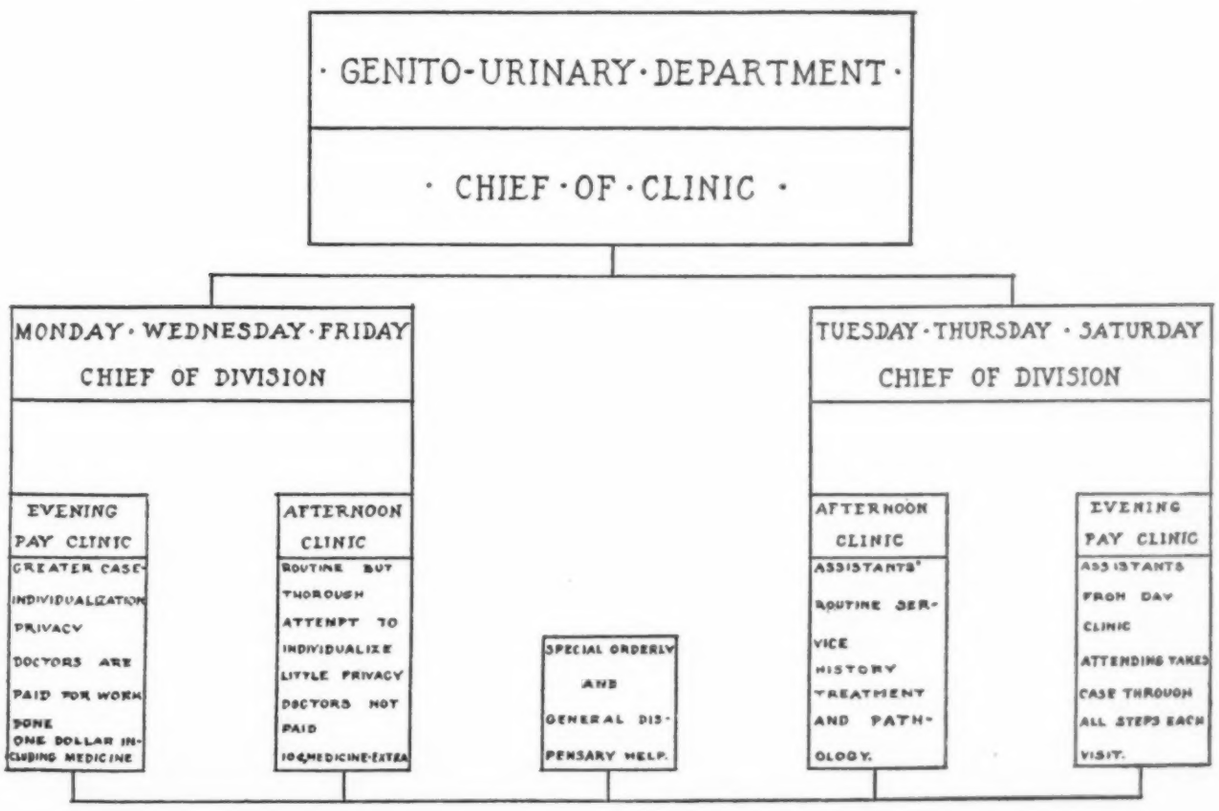
Floor plan of genitourinary department of Brooklyn Hospital Dispensary.

treatments at the rate of over 5,200 a year, 632 new patients being enrolled in 1915. We started with the theory that the free clinic would act as a feeder for the pay clinic, and that many patients receiving free treatment could afford and would pay for the greater privacy of the night clinic. In this we were not disappointed. Comparative figures from the day clinic for 1915 and 1916 show the growth, and give an index by which to estimate work for this year:

	1915	1916
January	380	603
February	355	500

The evening clinic for the first two months, August and September, 1915, had a total of 249 visits, while the short month of February (two holidays), 1916, showed a total of 196 visits. The average monthly increase has been 14 visits, and both clinics are beginning to receive new patients as a result of the signs already placed.

The work was successful from the start. The evening clinic is open six days a week from 5 to 6:30. The fee charged is $1 per visit, which includes drugs, excepting in cases where salvarsan is administered, where the fee is $5, which furnishes this drug practically at cost. The income, which for the six months was a little over $1,000, is divided —one-third to each physician and one-third to the institution. As the clinic grows and more members are added to the night staff, the hospital will continue to count as one and the division will be one-fourth or one-fifth, etc.



Scheme of organization of genitourinary department of Brooklyn Hospital Dispensary.

Our next step is somewhat radical—the active advertising of our work. In this we feel that we will accomplish an additional public benefit by seriously curtailing the business of the quack doctor and drug stores which advertise and sell nostrums and specifics; cooperating with the department of health, the Committee of Fourteen and through them, reaching the brewers' association and retail liquor dealers' association, we have received authority to remove the signs advertising the quack doctors and patent medicines from saloon wash rooms and replace them with signs offering the treatment facilities of the Brooklyn Hospital Dispensary free and pay clinics, and the advice and diagnostic service of the Department of Health venereal clinic. Since the middle of January, 67 saloons have been visted and signs placed in 50; 30 of these saloons had no quack signs and 37 had a total of 182, which were removed. This work is now being done, and we look for a large increase of attendance as a result.

On the walls of our waiting room are hung a large and varied exhibit of the alluring signs of the advertising doctors and of many specifics for self-treatment which are guaranteed to work impossible cures in incredibly short periods of time. This display is bound to have a strong psychological effect on our patients, who will go out and spread the gospel of our work.

The harm done by these advertising specialists largely influenced our board to open the pay genitourinary clinic. We made an investigation in our free clinic, and found that more than 80 percent of the patients acknowledged that they had spent their money in vain with quacks and on nostrums, and came to our clinic as a last resort. We feel that by fighting fire with fire, and doing the same sort of advertising that has brought business to the quacks, we shall turn large sums of money from waste to effective results.

In addition to this campaign, we are planning to interest the owners of the 400 factories in our neighborhood to allow us to put our signs in their men's wash rooms.[1] We are encouraged to believe that, from the thousands of men in our city suffering from venereal diseases, we shall be able to increase the work of our dispensary to large proportions. Our chief of staff prophesies that in the not distant future the genitourinary department will operate a continuous clinic from 9 a. m. to 9 p. m., and I am inclined to agree with him as to this possibility.

To the dispensary staff the pay clinic is naturally a source of great encouragement. It affords another step of promotion between the monotonous work of the free clinic and appointment to the inside hospital staff. It offers the ambitious medical man some small monetary compensation for the time he gives to the charity work of the free clinic. This compensation should grow to fair proportions as the patients increase in number. This new element in the dispensary will insure more loyalty, enthusiasm, and regularity of attendance on the part of the staff, and will naturally have a powerful effect on the efficiency of the dispensary work generally. In my experience nothing has a greater influence on building up or destroying the attendance of a clinic than the regularity or irregularity in attendance of the physician.

I wish to speak now of pay clinics in general, and as an individual rather than as a trustee of the Brooklyn Hospital. This is a subject to which I have given much thought for several years. I believe that the establishment of pay clinics in all departments of our dispensaries is both a logical step and a pressing social necessity. I think every dispensary should double its service to the community by establishing pay clinics, the income from which should be equitably divided between the institution and the attending physicians. Such a move will be both fair to the medical profession and of great advantage to the public. If the neighborhood doctor, whose business they will most affect, is giving proper services, his practice need not suffer. If he is not efficient, it will be only the old law of the survival of the fittest.

There are thousands of self-respecting families in our community whose income fails to keep pace with the rising cost of living, and whose emergency surplus, when sickness comes, is totally inadequate. Such people in the past have gone to their family physician, but now are unable to pay his fee and naturally turn elsewhere for treatment. They have two alternatives—to consult the cheap neighborhood doctor or to accept the charity of a dispensary. To the honest, intelligent, self-respecting wage-earner neither of these alternatives is satisfactory; he is not a pauper—he asks no charity, yet he naturally feels little confidence in a physician who, with a living to earn out of small fees, can give but superficial attention to each case. The result is that he seeks what he feels is the better treatment afforded by the dispensary, and pockets his pride for the sake of better service. This naturally opens the large subject of dispensary abuse. Undoubtedly this exists, but in my judgment it exists almost entirely because in our medical organization we do not offer proper economic facilities for the medical treatment of these borderline families who make up so large a proportion of our community.

In my opinion the opening of pay clinics in our medical institutions is an absolute necessity to meet the change in social and economic conditions. The pay clinic of the genitourinary department of the Brooklyn Hospital Dispensary has already demonstrated that great possibilities exist in the idea. The members of our board and medical staff will gladly give such information and aid as our experience affords to other institutions which may consider adopting a similar policy.

The following letter was sent to 400 factory operators in the neighborhood of our dispensary:

Dear Sir:

We are doing some special work in our dispensary which is of interest to you as an employer of labor, and in which we want your cooperation.

At one time or another over 60 percent of working men are infected with venereal diseases. These seriously impair a man's efficiency by reducing his strength and nervous energy. They are highly contagious and hard to cure. The patient is usually ashamed to consult his family or factory physician, and consults an advertising quack, whose expensive treatment does more harm than good. Our dispensary conducts a daily clinic for such diseases in charge of specialists—a free clinic from 12 to 2 p. m. and a pay clinic, $1 fee, from 5:30 to 7 p. m.

For your own interest in your men's highest efficiency as well as their health, we want you to help us make this work known to your employees. Your factory is in our ambulance district; among the 2,000 hospital and 50,000 dispensary cases treated last year were many of your men's families. Read the inclosed folder; it is of vital importance to the efficiency of your organization.

We would like to furnish you with two signs for each of your men's wash rooms—one defining the examination and diagnostic service of the department of health and one outlining the treatment facilities of the Brooklyn Hospital Clinics.

A number of factories have already installed these. We are fighting a great social evil and want you to help us.

In connection with this work, will you not consider putting us on your charity list for annual donations of 10 cents for each employee in your factory?

Our hospital is doing a work far beyond the income from its endowment, and has a large annual deficit. Inasmuch as our work reaches the families of many of your employees, we hope that you will

[1]The method employed in first bringing this matter to the attention of the industrial organizations is illustrated at the end of this article in the form of letters to employers.

consider favorably this suggestion of making a regular contribution towards its support.

CHARLES F. NEERGAARD,
Chairman of Dispensary Committee.

We also gave wide publicity to our work through the following circular:

BROOKLYN HOSPITAL DISPENSARY AND MEN'S DISEASES

All classes of cases are freely treated at the Brooklyn Hospital dispensary. Special private rooms are reserved for women. Children's diseases receive particular care. Injuries of all kinds, pains, suffering, accidents, serious or slight, are alleviated or cured.

We want your cooperation in one field of its work—among your men. This involves no expense whatever on your part—only your assistance in bringing what we are doing before your employees for their own good.

One class of disease is usually left to quacks and fakirs because of the way they are contracted, and the fact that the sufferers are ashamed to go to regular practitioners, who, in turn, dislike for obvious reasons to handle such cases. These are the so-called "private diseases of men."

Statistics show that over 60 percent of the workingmen suffer, at one time or another, from these diseases. How much the pain and distress interfere and hinder the victims in their work, no one can tell. Obviously, no man can do a good day's work who is partly incapacitated by suffering.

Many hospitals refuse to handle such cases at all—others only to a limited extent. So far as we know, only one other general hospital in the whole country besides Brooklyn Hospital has attempted to grapple with this evil in such a thorough and scientific manner.

Contagious as tuberculosis, such cases should be cured, not alone for the sake of those infected, but for the good of the whole community. To allow victims to "stew in the misery of their own misdoings" is to risk infecting those who come in contact with them and things they touch. Any cut or abrasion of the skin allows the germs to enter the system, and a perfectly innocent person, by using an infected towel or drinking cup, may contract a disease—lingering, loathsome, and distressing at best—and that, with lack of care, may be fatal. Most appalling of all is the possible effect on children yet unborn, for disease and deformity often result.

Among other numerous activities, Brooklyn Hospital maintains two special clinics to handle these diseases. Its experts are working in the closest relations with the board of health for the general welfare. Over 70 percent of the cases coming into our clinic have spent all of their money with some quack, whose treatments were valueless and usually did harm.

A free clinic for men's diseases (where a nominal charge of 10 cents is made for treatment) is held daily, except Sundays, from 12 to 1:30 p. m. A pay clinic, where $1 is charged for treatment and medicine, is held daily, except Sundays, from 5 to 6:30 p. m.

Cases are followed up. When a patient stops coming before he is cured, communication is had with him to find out if he is neglecting himself and why, and measures taken to complete the cure.

All that we ask of you in this connection is that your company will assist us in bringing these clinics to the attention of the men. This can be done through putting printed slips describing our work in pay roll envelopes, passing the word along through the superintendents and foremen, and placing our small signs, which will be furnished free, in the men's toilets.

CHARLES F. NEERGAARD,
Chairman Dispensary Committee, Brooklyn Hospital.

A. W. Farlinger, a capitalist of Atlanta, Ga., is erecting in that city a four-story fireproof building, 70 by 85 feet, specially designed as a home for nurses. The structure will have two basements and a roof garden. The first floor will be divided into administration offices, a large sitting room, an assembly room, five private parlors, a spacious cafe, baths, and a lobby. On the three floors above the ground floor will be built fifty-seven dormitories and twenty-seven baths with showers. A number of the rooms will have private baths. One hundred and five nurses will be accommodated. A part of the first and second basements will be devoted to a swimming pool and a large gymnasium. Locker rooms, with shower baths attached, will also occupy the first basement, and the remainder of the first and second basements will be devoted to installation of boilers, heating plant, and storage rooms. The building has been leased for ten years to the Atlanta Registered Nurses' Club.

Miss Avis Ring, who has been in social service work since her graduation from the University of Wisconsin in 1913, has lately been placed in charge of the social service department of the Milwaukee Maternity Hospital.

DEPARTMENT OF LIFE EXTENSION

The New Hygiene—Objective Lesson Method

BY C. WARD CRAMPTON, M. D., New York,
Director Department of Physical Training.

The Department of Physical Training of the Board of Education, New York city, has broad duties with reference to the health and neuromuscular education of the 700,000 pupils in the public schools. It has three correlated subdepartments: 1, physical training, which provides exercise for all children in all boroughs in every school; 2, hygiene, under assistant directors of educational hygiene, charged with inspection, investigation, and supervision of all matters relating to health of pupils and teachers; 3, athletics, which seeks to provide after-school play, athletics, and folkdancing for all the boys and girls. Viewed from the standpoint of health (aside from its work in investigation), its purpose may be stated as follows:

By hygiene we mean today the work of civilization for its own protection and maintenance in matters of health. When bodies of men became grouped and lived together, the necessity for regulation in sanitary matters was first realized. When the progress of civilization and concentration of population in towns and cities became rapid, health conserving instincts alone became inadequate, and knowledge gained from experience was required to supplement and correct its archaic principles. The maintenance of individual and community health became the necessary concern of the individual and of men set apart by the community in a natural division of labor for the purpose of health protection and maintenance. There was first established an organization for the cure of disease, next the more modern endeavor to prevent disease, and, lastly, we find society endeavoring not only to cure and prevent disease, but to so care for its members that bodily vigor may be the common possession of all. It is not enough to prevent actual disease; the lower grades of depression, inefficiency, and relative illness must give way to abounding health and vigorous living. This is the most important and pressing work of society. Our magnificent civilization is dependent on the working power of its members, and this must indeed be great for the characteristic qualities of success in present-day work—i. e., speed and accuracy are to be shown only by those of strong, sound bodies. Today we must obtain this result for the men and women of this generation, and today we must see to the children, for the responsibility of the health and physical integrity of the next generation is ours. The Chinese worship at the graves of their ancestors. Let us see to it that a debt of gratitude to the father and mother of today may be paid by their children, lest future generations rise up to curse their forefathers for a heritage of feebleness and disease.

The Board of Education is charged with the teaching of all essential matters. These include the three R's and the so-called fads—sewing, manual training, drawing, music, etc. All these are important, but it is realized that they

are information subjects, and that information perishes with the death of the individual; it is not transmitted to offspring, while strong bodies are inherited. The result of the constructive health work of the city is not limited to the present, but is handed down as an endowment to generations uncounted.

Dr. Wm. H. Maxwell, city superintendent of schools, in addressing the principals and superintendents of the schools recently, stated in effect: "Ladies and Gentlemen: You know how highly I regard the study of music, drawing, manual training, and the like, but I wish to state with all possible emphasis that the work of the schools in physical training, reading, composition, and arithmetic are by far the most important subjects and the main work of the schools. I mention physical training first because it is by all odds the most important."

The methods of the pursuance of this policy is an example of the new hygiene. The old hygiene was a method of instruction. Children were given lessons from books on anatomy, physiology, and hygiene, and then told how to care for the health on the basis of knowledge. This was all very well, but instruction started from the structure of the bones, the heart, lungs, etc., proceeded to the function of the same, and finally arrived at the care of the health; a logical method, but wasteful and ineffective, as it expected children to think as adults with full reasoning powers. Today we realize that children have bodies that must be cared for before they know the reason why.

The new hygiene has a different policy; it means the doing of things—not the mere knowing how. Ten minutes is spent in drilling the child in brushing the teeth instead of an hour on the anatomy and physiology of the tooth, and the ten minutes' work is the more effective. The child is told to *do* certain things. The authoritative command, "You wash your hands, face, and neck, and clean your finger nails, and come to school showing you have done it," is worth more than several hours' dallying instruction on the anatomy of the skin. The new hygiene gets things done and sees to it that things are *always* done, for an inspection of every child is made every day by the teacher. This goes on for eight school years, and it is fair to suppose that what is done every day for eight years will become a habit. The new hygiene is practical; it is an every-day affair instead of a book-taught theoretical subject. You will never find in our school compositions on health written with dirty hands. The greatest practical advance made by the new hygiene was introduced in the New York schools last year when the directions were given that every child should be marked on "his effort and success to put into practice the instruction received in personal hygiene." This has aroused every child and teacher and parent to an appreciation of personal cleanliness and health, for now it is marked like arithmetic and spelling.

As a New York paper has it: "That Johnny Jones shall hold up his head, breathe properly, brush his clothes, keep his muscles in condition, and be cleanly in appearance will, in fact, have about as much to do with his success and happiness in life as the things a studious youth can easily learn out of his books."

Instruction is not all based on simple cleanliness. It is realized that 25 percent of all deaths are due to tuberculosis, and antituberculosis measures must be introduced directly. First aid to the injured must be taught, and the special hygiene of the summer and winter, sunstroke, swimming, accidents, frostbite, and common colds must be known about. Above all, the instruction must become effective in the home, for the home has many in it who can be influenced by the faith of the one.

In a city not far distant is a school in an Italian neighborhood. Here the children are often sewed up in their clothes, layer by layer, as the cold weather comes on, to remain encased in them till spring comes, and they are peeled off in reverse order. The teaching of hygiene under these conditions was a difficult task and a great responsibility. The teacher bought a papier-mache doll, the size of a baby, and dressed it up with great care in appropriate under and outer clothing, with several changes of clothes. They named the doll Genevieve. Every morning she was taken out of bed and her night clothes removed; she was washed, powdered, and dried, her teeth brushed carefully, hair combed, finger nails cleaned, and dressed for the day. Every afternoon the reverse process was gone through. Soon a mother called "to find out," and sat stolidly watching the solemn process of dressing, and she examined each thread of the clothes with great care. Other mothers came, until finally Genevieve was taken home every night by a pupil to an Italian home to get American care, and teach hygiene in a dumb but effective papier-mache way. Genevieve wrought a transformation in the whole community. She became real.

The new hygiene is not only concerned with the positive establishment of habits of the care of the health; it is even more objective than that, for it gets its results in the absolute structural improvement of the body. School lessons are so arranged that mental and physical rest are given by change of occupation. The day's work is punctuated by "two-minute drills" as a tonic to relaxed muscles, and for the refreshment of heart and lungs a period of vigorous exercise is given every day; in the latter, each part of the body is given its work and harmonious development is assured. Athletics, play, and folk dances give the additional stimulus of enjoyment to these exercises, and healthful work is pursued in the guise of fun.

Should the new hygiene develop to the extent of its promise and intent, health should become a habit for every child. Preventable disease (such as tuberculosis) will be an impossibility. The children of today will be sound and vigorous, and the inheritance of health will insure a sturdy American for tomorrow.

St. Luke's Hospital, Davenport, Iowa, has just closed a campaign in which more than $130,000 was raised for the purpose of building a new institution, and it is expected that finishing touches will be made to plans that are already half matured so that work can commence this spring. Miss Martha Oaks, the superintendent of the hospital, has been hoping for two or three years that she would be able to administer a new institution one of these days, but had hardly dared to hope for so cheering a result of the recent campaign, and is elated at the idea of having a hospital of which Davenport, Moline, and Rock Island can be proud. The new hospital is to be located on new ground about a mile from the heart of the city, overlooking a beautiful valley. It is expected that about 75 beds can be accommodated in the first unit of the new institution for the money just raised, the plans, however, to be made so that additional units can be built at any time and still maintain the homogeneity of the group.

Starting less than three years ago with the determination to build an orthodox Jewish Hospital in Brooklyn through the collection of 5-cent pieces, a band of workers of the Brownsville and East New York Hospital Society, numbering less than a dozen, expect to see their hopes realized in July. With over 9,000 subscribers at 5 cents per week, the sum of $60,000 has been collected and two stories of the hospital completed with that sum. When completed, the building will have six stories and a capacity of 250 beds. A ladies' auxiliary was recently organized with the object of collecting $5,000 in pennies and has already obtained that tidy sum.

PHILANTHROPY AND THE PUBLIC HEALTH

Conducted by THE NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR.
BAILEY B. BURRITT, General Director.
WILLIAM H. MATTHEWS, Director,
Department of Family Welfare.
DONALD B. ARMSTRONG, M. D., Director,
Department of Social Welfare.

Please address items of news and inquiries regarding Philanthropy and the Public Health to the New York Association for Improving the Condition of the Poor, 105 East Twenty-second street, New York City.

Feeding New York's School Children

BY ELIZABETH M. FEE,
Supervisor New York School Lunch Committee.

THE CHILD WHO EATS AT SCHOOL

Tony was 9 years old when one day he made the discovery that many of his classmates were getting "regular meals" in the school instead of eating sandwiches brought from home, or buying pickles, cakes, or candies from nearby pushcarts and vendors' stands. This discovery set Tony to thinking, for his own lunch which he brought with him to school usually consisted of bread and some preserved meat in the form of sliced bologna. He watched other children eating with great relish hot soup, macaroni, jam sandwiches, different kinds of puddings, sugar-coated apples, and candies. He reported his discovery to his mother, with the information which he had obtained that for two or three cents he too could have such a "regular meal." Tony now eats his noon lunch at school every day in the year that school is open. He does this both because he likes to and because he has to. Tony's home is only around the corner from the school which he attends, but that home is closed and deserted until evening, when his mother and sisters return from their work.

Some mothers have their children eat their lunches at school so as to avoid the danger of street crossings between school and home.

THE PROBLEM AND ITS SOLUTION

In forty-seven elementary public schools such children are now able to take their noonday meals at a cost of a few pennies, for which they receive wholesome, well-cooked, and well-selected food. Failing such provision, these children would be compelled to make up their meals, as some still do for whom such school service is not yet available, partly with food brought from home and partly with articles of questionable nutritive value purchased from vendors in the streets about the schools, who have no conception of sanitary requirements and expose their wares to dust and handling.

The failure to provide a nourishing noonday meal for children accounts in part for the large percentage of malnutrition cases found by the medical inspectors in the schools. During the past year 16,181 cases of malnutrition were reported in the schools of New York city. In 1909, when the system of medical inspection was newly organized, and the first general physical examination of the children in the schools was in progress, the report that 7,249 children out of 231,081 examined were found to be malnourished startled the public and caused the press to engage in a discussion of the social and economic conditions which cause so many children to suffer from poor nourishment.

As a result of this disclosure, the New York School Lunch Committee was organized under the leadership of Miss Mabel H. Kittredge, who is still active in that capacity. The work of this committee found favor with the public, and won the approval of the school authorities. The popularity of the school lunch grew so rapidly that a large number of schools which were not so equipped requested the installation of lunch services. Eventually the committee became affiliated with the New York Association for Improving the Condition of the Poor, or a part of the Department of Social Welfare. Thus greater resources and facilities came within the control of the committee and its activities were greatly increased, being at present more than six times as extensive as they were when the committee originally took up the work.

PRESENT STATUS

Last year the committee operated lunch services in 19 public schools, with an aggregate enrollment of almost 27,000 pupils. A total of 1,488,527 portions of food were sold to the children, the returns for which amounted to $14,885.27. This sum of money repaid the cost of the food, the committee bearing a deficit for the cost of service.

The equipment of kitchens and the various accessories are provided in part by the Board of Education. The Board of Estimate and Apportionment has voted a special bond issue of $26,000 for the equipment of school kitchens and lunch rooms. This will enable the committee to extend its service to about 60 schools.

Special types of service are operated in several schools, such as those having classes for cripples and anemic children and the school for the deaf. For the crippled children special methods are followed, having in view the children's physical needs. Milk and crackers are served to the anemic children in the morning. At the school for the deaf most of the pupils eat their lunches in school, as it is considered safer to limit their going and coming amid the street traffic, and very many come from distant parts of the city and would have to stay in school for their lunches in any event. Here full-course meals are served, with daily variations in the fare. In this school the service is self-supporting.

THE FOODS SERVED

The daily menus in the schools vary, and the children are offered a large choice of desserts, in addition to the soup and the other staples, such as sandwiches and salads. Attention is also given to the preferences of children of different nationalities. In the Italian section Italian cooks are in charge of the school kitchens, and foods familiar to this nationality are served. In the Jewish sections Jewish cooks are employed who are familiar with the dietary regulations of the orthodox law.

Some items of food are sold at 1 cent and some at 2 cents. For 3 or 4 cents a child may buy a well-balanced meal, including sweets. Some children bring their bread from home, which allows them the expenditure of an extra penny for fruit or candy. It is compulsory that the children take either soup or a cup of cocoa.

Following is a list of some of the foods purchasable at a school lunch counter:

Soups—Lima bean, pea bean, rice and tomato, barley and potato, menestra.

Sandwiches—Jam, egg, salmon.

Salads—Potato, bean, lettuce, chicory.

Desserts—Apple tapioca, rice pudding, bread pudding, brown betty, baked apples, vanilla cakes (iced), spice cakes, fruits (apples, bananas, oranges), crackers, candy, peanuts, ice cream.

Beverage—Cocoa.

PREPARATION AND SERVICE

The food is prepared in kitchens in centrally located schools, from which it is distributed each day to the schools nearby, which are grouped with the central kitchen. In each central kitchen there is a manager in charge who is responsible to the supervisor for the ordering and storing of supplies, the quantity and quality of food served, the manner of sending it to the outside schools, and the accounting.

Fig. 1. Dishing out the portions of food. Sanitary regulations with respect to workers and surroundings are observed throughout the school lunch service.

The children desiring lunches form in line in the playground at noon. The soup kettles are conveniently placed, and the children receive a tray and spoon before the bowl of soup or cocoa is placed on the tray. The children then pass along to the penny table, on which are displayed salads, sandwiches, puddings, stewed and fresh fruit, cakes, crackers, peanuts, and candy. The "penny tables" are waited on in most cases by children who receive their luncheon in payment for their services. The cashier stands at the end of the line to receive the pennies and to check the food purchased by the children. The children in many schools sit down on comfortable benches at tables covered with oil cloth or damask. This practice of sitting down to a table comfortably and in order is valuable, as the school is in some cases the only place where the children ever sit down to eat. After the children finish eating, they carry their trays to a table in a remote corner, designated as a scraping table. The refuse is scraped into a pail, and the trays and dishes neatly stacked in piles ready to be washed.

EDUCATIONAL VALUE

The noon hour is socialized in every school where lunches are served. Under the supervision of teachers who maintain order without suppressing the natural desire of the children to relax during this recess, the children at the tables are able to enjoy their meals amid pleasant chatter and freedom of action. Proper table manners are encouraged, and along therewith also the wholesome habit of self-help.

The educational value of school lunches depends entirely on the attitude of principals and teachers. Where they are interested in advancing this valuable phase of the work, it is possible to teach the children how to buy, the proper choice of food, proper chewing, and orderliness at table.

HEALTH PROTECTION

The committee has adopted various means for the prevention of disease transmission through the lunch service. The employees of the committee are required to undergo a medical examination annually, with the cooperation of the Department of Health and Department of Education. All the food stuffs purchased by the committee must come up to certain standards fixed by the Bureau of Food Supply of the New York Association for Improving the Condition of the Poor. Members of the staff of the committee make personal inspections of the factories whose products the committee may wish to purchase before any orders are placed. In addition, the committee prefers to deal with firms whose employees are given periodic medical examinations.

Another guide which the committee follows in determining from what firms not to purchase foods are the reports of the health department of violations of sanitary regulations by manufacturers of and dealers in goods purchased by hospitals.

Fig. 2. The food is prepared in central kitchen schools, each serving a group of four or five schools.

REACHING INTO THE HOME

It frequently happens that the meagerness of a child's meals and his physical appearance, indicating insufficient nourishment, will attract the attention of a teacher or a

lunch employee in the school, with the result that an inquiry will be made at the child's home.

During the winter of 1914 I had occasion to visit perhaps sixty homes in the lower East Side in the heart of the congested Italian district. The reason for my visit was an unusual one: while supervising the work in one of the central kitchens I observed a small anemic lad who on several days took up the same position outside the door of the lunch room and watched the workers with hungry eyes.

Fig. 3. The pupils of the school for the deaf have made the lunch service entirely self-sustaining.

Fig. 4. He needs all the good food he can get, but his three cents will not buy it outside of school.

Fig. 5. Good food, plenty of time in which to eat it, lots of good cheer to go with it—a daily enjoyment for thousands of children served by the School Lunch Committee.

When I finally approached the boy he appeared so straightforward and anxious to help that I asked the principal of the school if the child might help in the lunch service. The children working with him told me afterward that the new helper didn't eat anything but soup. I thought probably he had been brought up on soup and didn't care for the other foods. About two weeks later the captain of the lunch team came to me with the story that the boy had brought a small pail to school and had put his soup in it and gone home. The following day I questioned the boy, who said his mother was sick and his brothers and sisters hungry, so he took his allotted portion of soup and bread home to share with them.

I followed up the case by visiting the home, and found an invalid mother, a brother and sister, twins, and a smaller boy. The mother had been injured in a factory fire and rendered a chronic invalid, and the father (the couple had never been married) had long since deserted the family. Through a neighborhood organization arrangements were made for the proper care of the mother, and three of the children continued at school. Funds were provided for the children's lunch in school each day. In several weeks our little fellow had developed into a different sort of boy—bright, clean, and healthy looking—and the other children had also begun to show good results from proper food. The mother, who had been a despondent, complaining sort of woman, became with medical treatment and good food a happy, smiling, patient invalid.

In many families the mothers are working either in factories or doing piece work at home, and consequently have no time to spare in preparation of lunches. If the children had not the advantage of a hot, nourishing luncheon in school, they would have to go through the entire day on merely a cup of coffee with dry bread, or several dill pickles.

The work of the School Lunch Committee is not in the nature of charity relief. The aim is to provide nourishing food to the children of the poor as well as those in comfortable circumstances at cost. Nevertheless, the lunch service has afforded opportunity to reach into the homes of indigent families who were not recipients of charity and yet deserved such assistance as it was possible to secure for them.

Unique Dispensary at Pasadena

The need that had been long felt in Pasadena, a city of 40,000 people, for a dispensary was supplied about four months ago by opening to the public a substantial and well-appointed building for this purpose. It was built upon grounds of the Pasadena Hospital Association, and is conducted in connection with the hospital. That it supplies a real and pressing demand is evidenced by the fact that since it was opened over 2,000 treatments have been given patients in its several departments of tuberculosis, medicine, surgery, pediatrics, eye, ear, nose and throat, and gynecology. All these are well equipped, and have the attention of members of a carefully selected dispensary staff. The dental department, which was thoroughly equipped at the expense of the Pasadena Dental Society, is about to begin its clinics, with every promise of having a large patronage.

The patients who come to the dispensary are largely from our Mexican population. Many of them are unable to pay the small fee of 10 or 15 cents charged them for treatment, but they get attention just the same. The leading dairy of the city donates all the milk and cream used for the babies, and there are no more grateful patients of the dispensary than the mothers of these little ones, who at the present time number fifteen.

INSTITUTION LIBRARIES

Conducted by E. KATHLEEN JONES,
Librarian McLean Hospital, Waverly, Mass.; member Institutional Libraries Committee, American Library Association.

Please address items of news and inquiries regarding Institution Libraries to the editor of this department, McLean Hospital, Waverly, Mass.

Minnesota School for Feeble-Minded and Colony for Epileptics, Faribault, Minn.—The Children's Library

BY MARGARET MAC LEAN, Principal.[1]

So much hand work is done by the feeble-minded, the exhibits sent out from the institution are so largely made up of hand work, and so much emphasis is placed on the value of manual and industrial work in all discussions of the training given here, that it is not to be wondered at that the visitors to the institution are surprised to find a school system with classes ranging from sense training and the kindergarten to the sixth grade, with perhaps more attention paid to music, both vocal and instrumental, than is paid in the average public school; with drawing and water-color work being done most creditably in all the grades; with physical training a part of the daily routine of the child going hand-in-hand with the manual training, which takes a serious place in the daily schedule as early as the first primary grades.

That reading is one of the subjects in which the feeble-minded delight and excel is attested by the appreciation shown of their work by a group of principals from one of our largest and best city school systems, who visited our schools not long ago, and were so delighted with the facility with which a primary class read at sight stories written by some of their number on the blackboard, that they sent to the class a large and beautiful picture to be hung on the wall of their school room. So it goes without saying that a library has been for years one of the features of this institution, very dear to the hearts of the children. But, to be accurate, I must say libraries, for the institution has more than one children's library.

In those buildings too far removed from the school training department to be easily accessible, branch libraries are established for the benefit of the children in those groups; so one will find suitable collections of books in Skinner Hall, Sunnyside, Grandview, and Walcott, as well as in the main building, where is to be found the school library proper. At present this is small, containing only 1,050-odd volumes, for it has to be kept in limited quarters —one of the rooms connecting with the principal's office. It is in charge of a librarian, who also has in her care all the text and reference books, magazines, and periodicals belonging to the school department.

If you should examine the 1,050-odd volumes, you would find books ranging from those beloved by beginners in reading to those enjoyed by reading men and women, with, quite naturally, a larger number of the stories and biographies suited to younger children than any other class, for of the 167 readers of the school library the ages run from 10 to 50 years chronologically and from 6 to 13 years mentally.

The following tables will show the number of readers divided into chronological and mental aged groups respectively:

Chronological age	Number of readers	Chronological age	Number of readers
10 to 15 years	39	30 to 40 years	20
15 to 20 years	42	40 to 50 years	16
20 to 30 years	50		

These same readers, considering mental age only, would tabulate as follows:

Mental age	Number of readers	Mental age	Number of readers
6 years	10	10 years	26
7 years	40	11 years	21
8 years	37	12 years	8
9 years	22	13 years	3

Story telling and the dramatization of stories are a regular feature of the school work in all grades, and it is not to be wondered at that the children form a taste for good reading and a fondness for books very early in life. This taste is fostered and encouraged by the teachers, and one of the strongest incentives to learning to read is to be able to get books from the library.

The books are issued by a regular card system, not unlike that used in any library, and to the individual child, who is solely responsible for the care of the book issued to him.

To become a reader of the library books is not a privilege easily won; some yards of red tape must be wound up before one attains that ambition, for to be a holder of a library card proves that a certain amount of erudition is possessed by its owner.

Library books are not loaned by one child to another, though there is no rule against it. The readers have found that if they are to be responsible for the condition of their books, and lose the privilege of the library if they carelessly handle and abuse them, they must restrict the use of them to themselves.

It is a well-known fact that his "library," as the children say, is the one thing that a boy will not share with his best friend. His skates, his skis, his sled, his knife, his box of fruit, his candy, his clothes off his back even, are a friend's for the asking, but his library book, never! You see something might happen to it.

For this is the way in which one can obtain the coveted library privilege: when a child has learned to read well enough to want other reading matter than that found in his regular text books, he is encouraged to go to the librarian, who has a serious and thrilling interview with the prospective reader, and he is given a card which he must have filled in. This card, if for Tom Brown in Miss Smith's school room, reads as follows:

> "This is to certify that Tom Brown reads well enough to enjoy the books in the school library.
> (Signed) MARY SMITH, Teacher."

And under this coveted recommendation we find the following:

> "I hereby promise to use the library books with care, and to return them promptly in good condition. If I fail to do so, I agree to give up the privilege of using these books until I can learn to be more careful with them.
> (Signed) TOM BROWN."

When this card is deposited with the librarian, Tom's

[1] EDITOR'S NOTE.—Children's hospitals, homes for crippled children, and schools for the feeble-minded have been somewhat neglected in our efforts to secure better conditions in the libraries of hospitals for adults. Will those in charge of such institutions please help us to remedy this neglect by sending lists of books for children to the editor of this page?

name is placed on the list of those entitled to all the privileges of the library; he may at once select a book from the shelves, and it is formally issued to him. Thereafter he may have a new book at least once a week, provided he returns, in good condition, the one previously drawn. If a book becomes torn, soiled, or defaced while in his possession, he may not place the blame on anyone else, for has he not pledged himself to be responsible for it?

It is seldom that one has to forfeit the privilege of the library, and never has a child who really enjoys his books been forced to do so the second time.

The reader may draw any book he wishes, though it is sometimes true that he will be happier in his choice if guided by the librarian. Some of the youngest readers may be attracted by the handsome binding, the cover page, or the illustrations, and a book would not be refused him, no matter what reason he had for his choice.

A number of the readers keep lists of books which their friends have enjoyed and told them about, and these they will ask for first, and show great disappointment if they are out. Of course, they want the book "all the fellows are talking about."

One feature of the library is the care of the numerous periodicals taken by the school. Many of the best educational, scientific, and literary magazines are taken. A number of these are used by teachers, or heads of departments whose work is especially considered in them. After reading them, the persons having had them return them to the library, where they are easily accessible for reference; but a large proportion of the magazines and periodicals are sent directly to the children's living rooms, to be used and enjoyed by them in their leisure hours. Many children who do not read books enjoy the pictures and pretty illustrations, but none go unread. At the end of the month all are returned to the librarian, one copy of each is filed in the library, and the balance are sent to the hospital, where the convalescents enjoy them in any way they see fit.

A list of these magazines may prove of interest to the reader, and it may serve to illustrate one phase of our work.

Magazines	Number of copies	Magazines	Number of copies
American Boy	6	Modern Priscilla	3
The Craftsman	1	McClure's	8
Delineator	2	Normal Institute and Primary Plans	1
Everybody's	6	Primary Education	3
Etude	1	School Arts	1
Farmer's Wife	12	Something to Do	2
Harper's Bazar	4	School Education	1
Home Needle Work	2	St. Nicholas	2
Independent	1	Scientific American	1
Kindergarten Review	1	Survey	1
Kindergarten Magazine	1	Sunday School Times	4
Little Folks	4	Weekly Welcome	20
Ladies' Home Journal	6	What to Do	20
Manual Training	1	Youth's Companion	18
Mind and Body	1		

Another branch of the work in the librarian's care is the games, all kinds of which are kept on hand and issued and interchanged as needed. The children are regularly supplied with such games as dominoes, checkers, playing cards, flinch, authors, crokinole, snap, old maid, chess, etc., while bean bags, ring toss, rubber balls, base balls, and basket and foot balls are furnished in abundance.

There is no restriction on their use and enjoyment of these games, but they are taught, as far as possible, to use them with care, and making in every class one or two individuals responsible for the care of the games issued to that class has been found to be a good plan.

Still another feature of the library is the Victor and Edison records, which are kept for loaning to the various buildings. The institution owns three Victors and one Edison machine, and 225 records for these are cataloged and kept in cases, being issued as required. As with the books and the magazines, these represent the very best to be found in their line. New records are being added frequently to this collection.

Several of the children own machines, and their friends keep them supplied with a variety of records, so that there is no building that does not have an abundance of books, music, and flowers, for we have a greenhouse to add to the pleasures and refinements of life.

As to our moving picture machine, our band and orchestra concerts, our operettas, and other forms of entertainment—well, that is another story!

Libraries in Indiana Institutions

The Committee on Libraries in State Institutions is preparing a library manual for use in the care of institutional libraries. The following is the proposed outline for this manual:

Introduction—Value of library organization in institutions.

1. Book selection and purchase. (a) Principles and aids in institution book selection, with lists of best aids for various types of institutions. (b) Suggestion for book purchase.

2. Library equipment and administration, including care of books.

3. Preparation of books for the shelves. (a) Mechanical preparation. (b) Accession record. (c) Shelf list. (d) Catalogue (if necessary). Sample sheets and cards for each step.

4. Circulation of books. Methods for various types of institutions, with sample pockets and cards.

5. Periodicals. Selection, care, and circulation.

CARRIE E. SCOTT, Organizer.

Notes

Letters from several hospitals have been received by the editor asking advice about beginning or developing libraries in such institutions. While all such letters are answered personally and at length, it may be that there are other hospitals which would be glad of some general rules applicable to all institutions.

1. Have a trained librarian if possible; if not, put some one person in charge who can devote nearly, if not quite all, her time to buying, cataloging, classifying, and charging books, and getting them to the patients. Send such a person to your nearest public library for information about technical questions.

2. Secure a certain annual sum, from $100 to $300, or more if needed, for buying books. Get new books each month.

3. Establish confidential relations with some intelligent clerk at an up-to-date book shop; he will soon learn the sort of books you want, and will keep you informed about new publications. Remember that the hospital should receive 10 percent library discount on new books. Have books sent to you on approval, unless you rely on the book reviews of THE MODERN HOSPITAL.

4. Have a simple but efficient charging system, and make your nurses responsible for their own books and books on their wards. One hospital, which had been opposed to charging systems as savoring too much of "red tape," recently tried to round up its library, which seemed to have shrunk tremendously in numbers. It was found that over 400 volumes were missing, and a careful search failed to locate them—mostly new fiction and travels.

5. Don't think you cannot afford a library; for the sake of patients and employees, you cannot afford not to have one.

Dr. J. M. Carr is fitting up a small hospital at Escalon, Cal.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

The Egg Problem

The egg problem is one that must be solved every season of the year, though it is considerably less difficult to solve in the spring, so that seems the logical time to prepare for the other seasons. In the summer the freshness, or lack of freshness, of the egg must be constantly watched; in the autumn there may be a scarcity of good eggs; and in the winter we must face the problem of the storage egg. Though the trouble varies with each season, the difficulty through the entire year is to get an egg the flavor of which has not deteriorated nor been changed by some outside influence.

The shell is so porous that its contents readily evaporate; air from the outside can also penetrate this porous shell. If vegetables or some other strong-flavored articles be kept in the store room or refrigerator with eggs, their flavor may be imparted to the eggs.

In a new-laid egg the shell is filled, but as it cools the contents contract and leave an air space, usually in the large end of the egg. If this air has somewhat evaporated or is in the form of a bubble in the albumen, the contents of the shell will strike the sides when it is shaken in the hand. Contrary to popular belief, this does not always mean a bad egg; it may only mean that much air has evaporated and the egg is not fresh.

A common and fairly accurate test for the freshness of eggs is putting them into a dish of water. Fresh eggs will stay on the bottom of the dish in an almost horizontal position; but, if evaporation has taken place, they will tip. The greater the evaporation the more they will tip until the point is reached where they will float on the top of the water.

Eggs are preserved it many ways, some of which have been mentioned in a previous paper and will not be repeated here. Cold storage will keep eggs in a fairly good condition for some time *if* the proper temperature and humidity are maintained and the air is clean in the storage room, but they will surely, though slowly, deteriorate in time. Waterglass is effective in preserving eggs from contaminations through the shell, but it does not prevent development nor growth of any organism that may be in the shell, and the chick will grow as long as there is any oxygen inside the shell. After a few days this oxygen is consumed and the chick dies.

We are finding, in the use of the sterile egg, a better solution than any of these methods of preserving eggs or testing eggs. An infertile egg, if kept clean and dry, will not spoil in an average room temperature for several months. I have known of their being kept in a refrigerator for a year and still retain a good flavor.

Poultry dealers are producing these eggs more as there is more demand for them. Until recently we could not get them in large enough quantities to use them very extensively in hospitals or other institutions.

We are using them almost exclusively at Lakeside, and find them a complete solution of the egg problem. For the first time in my experience it is not necessary to be constantly watching the egg supply and every one concerned with the handling of them. Neither is it ever necessary to apologize or explain because a stale one "got by" in spite of all this vigilance, as is apt to occur, no matter how carefully the candling is done. Sterile eggs command a higher price, but they are worth it. There is no waste, and it is worth a few cents per dozen more to have eggs with just as good flavor at the last as at the first of a shipment.

It is perfectly obvious that these are always the logical eggs for storing if they can be obtained. This is just another instance of the demand creating the supply. If we are insistent enough, the poultry raisers will comply with our request and will no doubt be very glad to do so.

Control of Some Sources of Our Food Supply

We are apt to manifest considerable faith in our dealers in regard to the way our supplies are handled in the wholesale house, during transportation, and at the local merchant's. The thoughtful buyer today, whether buying for the home or an institution, will avoid foods that are exposed to contamination from the street or in the store, o by being handled a great deal—such as unwrapped bread or meat.

Many merchants, bakers, and others dealing with food materials are maintaining most satisfactory standards of cleanliness and sanitation. They are finding that a business can be conducted much more successfully and satisfactorily in a clean and sanitary place than in one which is neither.

There is much to be done in the way of educating the employees in these places of business. To install expensive machinery and equip a plant with all conveniences necessary for efficient service within its walls, then allow carelessness in delivery, is but an illustration of wasted effort. Many bakeries boast of their model plant and its equipment, and the superior quality of their goods, which is attributed to these model conditions, yet they send bread and rolls out unwrapped, or cakes and cookies without any protection whatever from contamination from drivers' hands or anything else with which they may come in contact; or these same goods are sold in shops where there is no cashier and the salesman handles bakery goods and money alternately. Is there anything more apt to be positively dirty than money?

The interest in clean food is no longer confined to individuals or societies for civic betterment, but business men and men who are negotiating the affairs of our city and state are also taking an active interest in the subject.

Doctor S. J. Crumbine, in an article in the January number of *The American Food Journal*, says:

"Sidewalk display of perishable food products in retail establishments has been prohibited in most of the states, the law allowing only such food articles that are necessarily peeled, pared, or cooked before being consumed to be displayed upon the sidewalk or on the store floor, provided that such articles are displayed at least eighteen inches above the sidewalk or floor. The model sanitary law also provides that all perishable foods be effectively protected by screens or coverings from the possible contamination of dust or flies.

"Meats are required to be covered in transit from the slaughtering establishments to the markets or shipping places, and only such cars are to be used for the shipping of food products as are reasonably clean,

in order that such products may not be dangerously contaminated by polluting organisms or foul odors or flavors."

In this same article Dr. Crumbine says with regard to employees:

"Physical Examination of Employees.—The one great defect in securing absolute freedom from dangerous contamination of food products is that of inability up to the present time, to require definite knowledge that all persons handling food products are free from communicable disease. It is believed that the next great reform movement in food control must be along that line. In Kansas the State Board of Health has recently secured the cooperation of the large meat packing establishments in requiring that all employees handling meats or meat products be required to pass a physical examination for communicable disease of any kind, including tuberculosis and venereal disease, before they can either find employment or be permitted to continue in the employment of these establishments.

"In 1912 the largest hotel in the city of Indianapolis put into effect a like requirement, and gradually, by the force of public opinion and the insistence of boards of health, this great desideratum in safeguarding the wholesomeness of food products is being brought about."

W. C. Wren, secretary of the Cleveland Retail Grocers' Association, in an editorial in the February number of the Cleveland *Grocer*, says:

"There being so many people engaged in the handling of food, would it not be a good thing, instead of having so many learned men continually looking into the food supply to see if the manufacturer had put over one-tenth of 1 percent of benzoate or had ground up too many turnips with the horseradish, to look into the general makeup of the handlers of food and their knowledge of food, and if found in good health, and have some ideas of sanitation and food values, and give them a certificate entitling the holders of same to enter into the business of retailing food?

"In my experience of five years as secretary of the Cleveland Retail Grocers' Association I took the most pride in keeping out of the grocery business men whom I knew to have contagious diseases.

"To illustrate: a gentleman called at the office about six months ago and asked me to assist him in getting a grocery store, and on asking him his reasons for wanting to embark into the grocery business he replied that sickness had made it impossible for him to continue in his regular trade. On looking at him closely it did not need an M. D.'s certificate to know that he was suffering from tuberculosis; and, do you know, it took me half an hour to prove to that man that the grocery business was the last thing that he should think of entering? But how many are there in that same condition entering into the food business, which, above all businesses, is the last business one with a communicative disease should be allowed to enter.

"We should recommend to the present administration the establishment of a bureau of examiners, where everyone wishing to enter into the business of handling food products should pass a medical and mental examination before being allowed to handle food, which, above all things, has its effects on the health of a community.

"The idea of spending an enormous amount of time and money looking into the healthfulness of food, and not one cent to look into who is going to handle it or where it is going to be kept, is all wrong. The very idea of letting anyone with the necessary funds enter into the business of food distribution is all wrong and should be corrected."

To quote from Doctor Carl Alsberg, in an address given more than a year ago to the Civic Federation of New York city, he put emphasis on the enforcement of laws regarding sanitary and hygienic conditions as follows:

"There is one need of control which is so vastly more important than all others that I propose to urge it alone on your consideration—it is adequate sanitary and hygienic control of food. By the sanitary and hygienic control of foods I mean the prevention of traffic in foods dangerous to health. To prevent this traffic is far more difficult than to prevent mere fraud in food products. Fraud may usually be detected by a chemical analysis. The danger to health that may lurk in a food can easily be detected in this way unless indeed the food contains some simple poison like arsenic or lead. If, however, the food be manufactured in unsanitary surroundings, or if it be the bearer of tuberculosis, typhoid, measles, or scarlet fever, this can hardly be detected. Hence, in my opinion, foods such as milk and butter, meat, fish, and shell fish, which are capable of this kind of contamination, should receive the greatest attention.

"The only safeguard against these sources of danger is inspection of the place of production and medical supervision of the workmen. It should be impossible, for example, for a dairyman with a case of typhoid in his family to ship milk. Obviously the exercise of such control of the sanitary conditions of food production is a task for the individual states. I would, therefore, urge on you to use every effort to secure such sanitary control of food production in every state. I can conceive of nothing more important. If such a sanitary control is to be established, you must clearly understand that, to be effective, it must rest on an adequate health service. Outside of our larger cities such a service is most unusual. Most small towns and rural communities are without adequate health protection. The greatest need of the country today is an adequate staff of well-trained, well-paid, full-time health officials in every county in our state. With this must go laws that are enforced for the recording of vital statistics of communicable diseases. Until all this is done, there can be no adequate sanitary control of foods. Just as long as we do nothing for the health of our country people, just so long will typhoid and similar diseases be imported into our cities."

The fact that men in such widely separated sections of the country and engaged in pursuits which differ so greatly are giving time and thought to improving the sources of our food supplies is most encouraging.

From no one should we expect greater interest or help to remedy the existing state of affairs than from the physicians and dietitians of our hospitals and other institutions caring for people not in normal health.

Wheat Flour

BY J. A. WESENER, M. D., Chicago.

This is one of the most important food stuffs for the needs of man, and, aside from the mere fact that it makes bread when made into a dough with suitable leavening agents and subjected to the action of heat, little is known as to its quality or how it may differ in commercial and food values. The reason of this is that the process of making bread stuffs is, at the best, a haphazard method. This even applies to some of the commercial bakers.

In selecting a flour, there are several important factors involved. These factors depend on the purpose for which the flour is to be used. If it is to be used for ordinary white bread, one flour is required; if for biscuit or pastry, another type.

Flour consists of two principal parts—gluten and starch—and the relative proportions of these parts have much to do with the kind of flour and its suitableness for the purpose for which it is to be used. Gluten is protein in its nature, and the gluten of wheat flour has the property of coagulating when made into a dough with water in such a way as to form a tenacious, rubbery mass, in which the starch is mechanically suspended. When the dough is made in connection with yeast, the products of fermentation soften the gluten and fit it for expanding into a loose, porous loaf of bread when it is put in the oven and acted on by heat. The expansion is produced by the gas developed during fermentation, and by steam. The heat fixes the gluten and forms a framework for the loaf of bread. At the same time it gelatinizes the starch and fits it for digestion. In bread making the baker knows that the best results are obtained by using a flour which contains a suitable amount of gluten for his purpose. He also knows that the gluten of different flours has different qualities so far as its use in bread making is concerned, and he naturally selects flours which will produce the results which he requires.

The best flours for bread making purposes are considered to be those which are made from hard winter and spring wheats, largely because these contain a larger proportion of gluten than the soft winter wheat flours, and also for the reason that they are of such a character that they will take more water in making dough of the necessary stiffness for convenient handling in the making of the bread. For the baker's purposes, flours of this type have two advantages—they enable him to make the largest possible weight of bread from a given weight of flour, and they also are suitable for making the largest volume of

bread from a given weight of dough. This is because the gluten is sufficient in amount and of such quality that when softened by the yeast it will expand to a large extent without breaking down. For this reason the bread is not only of good volume, but has fine texture due to the elastic gluten being separated into numerous fine sheets between the little bubbles of gas which have developed. A fresh-made dough will not make a loaf of this character because the gluten is too tough and tenacious.

Soft wheat flours, which contain less gluten and gluten of a softer nature, make excellent yeast bread when properly handled, but the bread lacks volume, and the amount made from a given weight of flour is necessarily less than that made from the harder wheats.

The soft wheat flours are especially adapted for the making of biscuits and pastry, where the leavening agent is usually baking soda acted on by an acid ingredient, such as sour milk, or cream of tartar, or acid phosphate of lime. Here there is no opportunity to soften down the gluten as is done by yeast fermentation, and the soft gluten of lesser amount is better adapted to the action of the gas released from the baking soda than is that from many of the harder wheat flours. The soft wheat flours are also lighter in color than are the hard wheat flours of the same grade. During yeast fermentation the harder flours are whitened to a greater or less extent by the action of air and the products of fermentation, whereas with baking powder or sour milk and soda products there is no opportunity for such whitening to take place.

All types of wheat make several grades of flour, which vary in market value according to well-known qualities which are well understood by the miller, but are generally not understood by those who purchase and handle flours. For this reason it is the height of wisdom to obtain information from those who are familiar with these values as well as the bread-making qualities of different flours.

So far as the actual food value of flours is concerned, there is not a marked difference in them independent of the amount of water which they contain—that is, flours equally dry, but containing different proportions of gluten and starch, have substantially the same fuel value and supply the same number of calories of heat to the body. Differences in their economic value, dependent on a greater or lesser proportion of gluten or protein, is generally secondary to the suitableness for making a palatable and readily digestible article of food—that is, selection of flours is based more on the suitableness for making bread and pastry than on a strict nutritive ratio of protein to carbohydrates, for under any conditions an article which is not palatable, is not attractive to the eye, and has not the proper physical condition, cannot be a desirable food product. Moreover, bread is only one of the articles of diet, and a proper adjustment of protein and carbohydrates can most readily be supplied by a proper combination of other articles of food with bread.

[To be continued.]

Rev. Dr. Abram S. Kavanagh, the retiring superintendent of the Methodist Episcopal Hospital, Brooklyn, N. Y., was tendered a farewell reception and dinner on April 3 by the 200 nurses and other employees of the institution. Dr. Kavanagh resigned the hospital superintendency to resume ministerial work. He has been succeeded by Dr. James E. Holmes.

The new Brownsville General Hospital, Brownsville, Pa., is in operation, with Miss Jeanne Newington, formerly of Decatur, Ill., in charge as superintendent. The hospital was built at a cost of $50,000 and has a capacity of fifty patients.

SOCIAL HYGIENE
VENEREAL DISEASES

Conducted by WILLIAM F. SNOW, M. D.,
General Secretary, The American Social Hygiene Association.

Please address items of news and inquiries regarding Social Hygiene to the editor of this department, 105 West Fortieth street, New York City.

The Venereal Disease Problem in War Times

At this time in the world's history, when able-bodied, intelligent, resourceful young men are especially in demand both in this country and in war-torn Europe, the medical and social questions of venereal diseases, low birth rates, marriage, and family life are receiving increasing attention. That widely diverse opinions are held is evidenced by the many proposals advanced, but the meager reports received from France, Great Britain, Germany, and other foreign countries show that certain fundamental measures are gaining recognition.

In Germany, for example, measures have been taken to prevent any sexual reminders in the war camps; no immoral motion pictures are allowed; no drinking places connected with dancing or vulgar exhibitions are permitted. In spite of the precautions taken, the moral situation is growing more serious. Constantly new schemes are being devised for eluding the vigilance of the officers, and venereal diseases are invaliding an increasing number of soldiers. As an illustration of the other extreme of opinion in Germany on methods of reducing venereal diseases may be stated a summary of the measures proposed by Dr. Sarason, of Berlin. This proposal contemplates: First, the frank designation of certain houses of prostitution, especially recognized for that purpose by the state authorities, exclusively controlled under municipal direction; these houses to require all men visitors as well as the inmates to be carefully examined for venereal infection on entering, and all applicants not found clean or in good health to be sent away. Second, the repeal of all measures concerning the licensing of houses of prostitution other than those under municipal direction; prostitutes to be permitted to live anywhere, but not to carry on their traffic in their homes. Third, to enforce this requirement, new legislation is proposed forbidding any man to enter a licensed prostitute's living room, and forbidding property owners to tolerate such visitors. The significant point about this proposal is that recognition should be given to the examination of all men who patronize prostitutes.

In France considerable discussion has taken place over the importance of warning the public on questions of morality and the need for suppressing printed advertisements of madams of massage parlors or of other persons, giving their receiving hours, asking for men's company for holidays, and general advertisements giving addresses or otherwise obviously soliciting; and the French League for Raising the Standards of Public Morality has arranged many lectures, particularly sending old soldiers who understand the problem to the camps and parks.

In Holland active measures against these methods of

soliciting are being enforced, the principal newspapers refusing all advertisements suspected as including immoral suggestions or not showing clearly what is wanted. Dancing "professors" whose records are not approved are finding it difficult to insert their advertisements. Advertisements concerning so-called sex diseases and their remedies are also being refused. A very general increase in the provision of facilities for dispensary and hospital treatment of venereal diseases is noticeable in reports.

In Milan announcements have appeared explaining that under the necessities of war strong measures must be demanded against free and secret prostitution. Women suspected of practicing prostitution are arrested and examined at a special dispensary.

In Belgium, under the direction of the German medical officers, attention is being given to so-called morals policing.

In Great Britain there have been many evidences of awakening of authorities and citizens to the importance of effectively grappling with this serious combination of evils.

It is significant that in all of the countries now at war the actual test of medical examination and prophylaxis alone has largely failed in spite of the discipline and the appeal of patriotism. The following English opinion against segregation, together with the quotation from the *Journal of Heredity* show the trend of public opinion in England and Germany.

"*An English Opinion Against Segregation.*—The following compact statement regarding the evils of segregated vice is made by William C. Dawson, chairman of the Education Authority, Hull, England, and member of the Council of Leeds University. It puts a strong case in a few words:

"1. The number of prostitutes living within any defined area is usually small compared with those who elude the vigilance of the authorities and refuse to live there. If segregation is intended to be a protective measure, its advantages are illusory.

"2. As a hygiene precaution it is both ineffective and unjust, as it attempts to segregate women only, leaving infected men free.

"3. It is a tacit admission by the authorities that they are either unwilling or incompetent to suppress or to eliminate vice.

"4. A vice area is a temptation to young people, who will not readily believe that practices can be prejudicial to the well-being of the community when the authorities either provide facilities themselves or permit others to provide them.

"5. A vice area attracts to it all the idle, vicious, and criminal population in a city, who prey, not on their own class, but on the law-abiding community. It is not only a 'hot-bed' of immorality, but also produces the basest kinds of criminality, such as bullies, procurers, seducers, thieves, and blackmailers.

"6. The control by the police of such a district, or private instructions to them to 'let it alone,' corrupts the officers concerned, and a corrupt police force with debased ideals is a peril to the liberties of the subject which can scarcely be exaggerated.

"7. A vice area lowers the moral tone of the whole community. The directors of companies and their shareholders, tradesmen and their employees, who make large profits on the food, wines, showy clothing, etc., supplied in such areas oppose all social reform and its advocates."

"*Race Hygiene in Germany.*—The semi-official 'Deutsche Zentralstelle für Volkswohlfahrt' held a three-days' meeting in Berlin, from October 26 to 28, 1915, with about 1,000 delegates attending. The conference was called 'Tagung für die Erhaltung und Mehrung der deutschen Volkskraft,' with the purpose to find ways and means against the evil consequences of war and modern civilization which menace the vitality of the race. The war kills the best, the bravest, the healthiest, eradicating once for all the finest strains in the race; and the city life, with all its attendances, causes a declining birth rate. The discussion was marked by a unanimity seldom seen in such a large audience. The dominating undertone was race hygiene. Whereas eugenics in America has a restrictive tendency, seeking to check the propagation of the unfit, race hygiene in Germany always was a positive conception aiming at the multiplication of the fit. Thus the conference laid much stress on everything which may elevate the birth rate of the best in the nation, but thought the introduction of sterilization of defectives or of marriage certificates untimely as yet. Simplicity in customs and mode of life, a full understanding of individual duty towards society, a high valuation of family life, inner colonization ('Back to the farm' movement), the system of one-family houses, garden cities, and chiefly the assistance of large, healthy families in every way—these were the main remedies proposed, the details of which were fully discussed, but cannot be enumerated in a short review. A standing committee representing all societies concerned is now in formation with the view to see the propositions worked out in practice."

Such information from Europe, fragmentary as it is, indicates that the public is coming more clearly to understand that medicine and morals have a common ground of interest in the prevention of syphilis and gonococcus infections.

Every effort should be made to develop the same attitude toward these diseases that is manifested toward other dangerous communicable infections—that is, one of sympathy and assistance for the individual during illness and recovery, and searching inquiry into the source of the infection and the community conditions which may have contributed to the opportunity for infection. The social ostracism often exhibited without any endeavor to deal constructively with the problem avails nothing either for medicine or morals. It is possible to deal scientifically with venereal diseases and at the same time to advocate that every individual should know that sex relations outside of marriage not only expose him to diseases which may prove disastrous to himself and others, but will unfit him for his highest efficiency in citizenship, marriage, and parenthood, and that society has a right to expect each man and woman to set for younger people an example of self-respect and self-control in accordance with the standards of moral living which the experience and suffering of past generations have developed.

Persons admitted to the Chicago Psychopathic Hospital for relief from the drug habit will hereafter be required to remain at least thirty days. Under former arrangements, voluntary patients who called on the county for treatment could obtain release from the hospital by giving three days' notice. The change was made on the recommendation of Mrs. Gertrude Howe Britton, superintendent of the Cook County Social Service Bureau, and because it had been found that many of the drug victims who came to the hospital remained but a few days and received little benefit.

Construction work has been started on a new fireproof home for St. Joseph's Hospital, Minot, N. D., to cost over $100,000. The building will have a total frontage of 188 feet, with wings 50 feet deep. The main structure will be 50 by 106 feet, and this part will be four stories high over a full basement. The wings will consist of three stories above the basement. The walls will be of brick, with pressed brick outside, and the joists will be of reinforced concrete or steel, with metal laths. J. C. Woodruff, of Minot, is the architect.

Plans have been completed for a hospital to be erected at Robinson, Ill., by Drs. J. W. Carlisle, H. N. Rafferty, C. E. Price, and A. Lyman Lowe, of that place. The building will consist of three stories and basement, and will be modern throughout. Separate suites will be provided for each of the doctors and accommodations provided for twenty-five patients.

FOREIGN CORRESPONDENCE

In the Mediterranean War Area

AMBULANCE TRAINS

Two ambulance trains have been provided for the conveyance of wounded men on the French railways. Each consists of sixteen vehicles, of which four are ward cars for lying-down cases, five are ordinary cars for sitting-up cases, two are kitchen cars, one is for medical appliances, one for medical officers and nurses, one for nurses, and two are brake vans. Each ward car contains thirty-six cots, there being three on each side of each compartment, arranged along the sides of the compartment, and not crosswise, as in the ordinary railway carriage in England. Patients are brought in at the ends of the carriage, and taken out through a wide door at the side. Every care has been taken to secure cleanliness; the floors are covered with oilcloth, and all the woodwork is painted white; lighting is by electricity and heating by steam. At the rear of the train is a coach with eighteen cots for infectious cases. The pharmacy car contains the medical stores and appliances, and has also a "treatment room," with operating table if urgent necessity calls for operation en route. In the staff car there is accommodation for medical officers and nurses, and in the adjoining car are accommodated twenty-eight orderlies. Every corner appears to have been utilized in the most ingenious manner in the design and construction of these ambulance trains; the one constructed, at a cost of £2,000, by the Caledonian Railway Company was visited by over 40,000 persons in Glasgow and by 25,000 persons in Edinburgh, which shows the interest taken in these matters by the general public. The Red Cross Society was benefited to the extent of an equal number of shillings, about £3,250. From the experience of Dr. Alfred Neumann it appears that surgical treatment in the way of dressing wounds can be carried out satisfactorily in a hospital train, even when traveling at 45 kilometers (28 miles) an hour. Sometimes urgent operations, such as tracheotomy and the ligature of vessels, had to be done with the train running at this speed. When wounds had been properly attended to, it was found that a rate of 60 kilometers (37 miles) an hour could be borne without much discomfort.

AID FROM CANADA AND AUSTRALIA

The assistance given by the British dominions overseas in the care of the sick and wounded has been simply magnificent.

To begin with Canada, in France three general hospitals have been established, together with a clearing station or hospital, and various Red Cross distributing centers for hospital necessaries and comforts. No. 1 general hospital was located near Etaples (on the coast of Picardy, a few miles south of Boulogne), under Colonel Murray Maclaren, consisting of Indian tents; No. 2 hospital occupies the hotel at Le Touquet (also near Etaples), supplemented by tents on the golf links. At Orpington, in Kent, on the main line of the Southeastern & Chatham Railway, the government of Ontario purchased a site, and is erecting a hospital of 1,040 beds, primarily for the wounded of the Canadian force. At Taplow, on the Thames, the Canadian Red Cross Society have built and equipped, at a cost of £25,000, a hospital to accommodate 1,000 patients, and the people of Quebec have erected and are maintaining a hospital in Paris, known as "La Presse" Hospital. Many other hospitals have been previously either provided or subsidized by the dominion. When Sir Robert Borden visited Manchester last autumn, wishing to see the Canadians lying sick and wounded in the hospitals in that neighborhood, he found that twenty-seven Canadian soldiers were distributed in twenty-four different hospitals. Naturally, as we can all understand, they would prefer to be more in touch with each other in a hospital mainly devoted to the care of Canadians, and many petitions to this

Fig. 1. A British first aid field hospital on the Gallipoli peninsula, pitched under the shelter of an overhanging bank near the sea, with the surgeon and attendants at work dressing the wounds of a disabled soldier.

effect were forwarded to headquarters. Accordingly, the hospital at Mr. Waldorf Astor's beautiful seat, Cliveden, on the Thames, near Maidenhead, which has been organized and staffed by Canadian surgeons, is now Canadian as regards its patients. Not far from Oxford is Nuneham Court, another beautiful mansion overlooking the Thames, the residence of Mr. Lewis Harcourt, until lately secretary of state for the colonies. Here Canadian officers are cared for; also at Bearwood Park, near Reading, formerly so well known as the hospitable mansion of Mr. John Walter, proprietor of the *Times* newspaper. In the neighborhood of Folkestone also Canadian patients and convalescents are gathered together in the Shorncliffe Military Hospital, the Helena Hospital, the Moore Barracks Hospital, and at the hospital at Walmer, where the great Duke of

Wellington used to reside as Lord Warden of the Cinque Ports. Tuberculous patients are sent to the Pinewood Sanatorium, near Wokingham in Berkshire, where the open-air treatment is carried on thoroughly under most favorable conditions.

There are no less than five hospital units provided by Canada now serving with the Mediterranean expeditionary force. No. 1 stationary hospital, under Lieutenant-Colonel S. H. McKee, of Montreal; No. 3, under Colonel Casgrain, of Windsor, Ontario; and No. 5, from Queen's University, Kingston, under Lieutenant-Colonel Etherington, were sent to Egypt. No. 2 stationary hospital, under Colonel Shillington, went to the north of France; here also are No. 1 general hospital (the Harvard unit), under Colonel Murray Maclaren, and No. 3 (the McGill unit). This last general hospital is (except for the operating room) under canvas. Some of these tents are of very large size and highly decorated, being Durbar tents presented to the war office by Her Highness the Begum of Bhopal and other Indian chieftains. They are floored, double-lined with a corridor between the linings that secures warmth in winter and coolness in summer, and lighted by electricity. The king has offered Upper Lodge, Bushey Park (near Hampton Court, on the Thames) as a convalescent home for Canadian officers, and this building has been suitably furnished and adapted for the purpose by Surgeon-General

Fig. 2. Star and Garter Hotel, Richmond, now razed, and on its site a hospital is to be erected. The low building on the left is now used to accommodate disabled soldiers.

Carleton Jones, director of the Canadian medical service. It is in an ideal situation for the restoration to health of the sick and wounded.

The medical service of the Australian imperial force at first comprised three field ambulances, two general hospitals, one clearing hospital, and two stationary hospitals. The first general hospital originally consisted of 520 beds, but has since been greatly expanded. It was commanded by Lieutenant-Colonel Ramsay Smith, of Adelaide, assisted by leading practitioners and specialists of Melbourne and Brisbane. The second general hospital was staffed from Sydney and New South Wales, under Colonel Martin. The stationary hospitals were staffed by some of the best known men in Melbourne and Western Australia. All these hospitals were fully equipped in every particular. They were conveyed to Egypt in a vessel specially fitted up for the purpose, the "Kyarra," subsequently used as a hospital transport to take back invalided men to Australia. After a stay of some months in Egypt, the stationary and clearing hospitals went to Gallipoli. Subsequently, two more completely equipped general hospitals were dispatched from Australia and two hospital ships. An auxiliary hospital of 500 beds, established at Harefield Park, in Middlesex, and a similar hospital, also of 500 beds, at Epsom, have been provided by the commonwealth government.

ST. JOHN AMBULANCE ASSOCIATION

At Etaples, on the coast of Picardy, not far from Boulogne, has been established a large hospital of 520 beds by the St. John Ambulance Association. It consists of huts raised from the ground, which is on a slope and well drained, the soil being sandy. The huts are 100 feet long and 20 feet in width, each being provided with a bath room, scullery, and sanitary annex. All the ward units are disposed in lines, parallel with a central corridor, which has at one end the kitchen and stores, and at the other the administration department. Separate dining rooms are provided for the patients, the sisters, and the medical staff; also an operation block, with two operating rooms, an x-ray department, etc. The reception block has several rooms, in one of which are four tables, and opposite each of these is a movable stretcher stand. The whole of one ambulance load can therefore be dealt with simultaneously and with great rapidity. Distinctive features are (1) its erection on piles, rendering it independent of the state of the weather; (2) easiness of communication by means of covered corridors; (3) the arrangement of the reception room; (4) perfect drainage. Probably this is the largest and most completely designed hut hospital that has ever been constructed.

AFTER-CARE OF DISABLED SOLDIERS

The care of soldiers who have recovered from their wounds, but remain disabled from pursuing their ordinary trade or undertaking any manual labor on account of their crippled condition, is being dealt with by Queen Mary's convalescent auxiliary hospitals. To begin with, two houses, capable of accommodating 300 cases, were taken at Roehampton, near Richmond. It was necessary to find accommodation near London to insure the frequent attendance and advice of orthopedic surgeons on the staffs of London hospitals. Similar institutions have been started at Croydon for the eastern command (the military district comprising the eastern and southeastern English counties), and at Alder Hey, near Liverpool. At these centers are collected cases of stiff or deformed joints, contracted muscles, badly united fractures, etc., and here they receive treatment, either by operation, by electricity, by radiant heat, by massage, or by the use of mechanical apparatus, all being under the supervision of surgeons expert in this particular branch of practice. Artificial limbs are provided when necessary. Subsequently the well-known Star and Garter Hotel, on Richmond Hill, was acquired by the Institute of Auctioneers and Estate Agents and presented to the queen for the accommodation of paralyzed and disabled soldiers. This building, standing at the top of Richmond Hill, with the famous view of the River Thames in front, and having the delightful pasture and woodland of Richmond Park immediately to the south, was found on careful examination to be incapable of satisfactory adaptation to the purpose required. It has accordingly been demolished, and a new hospital is in course of erection on the site. The illustration (Fig. 2) shows the original building, and to the left the pavilion designed for a ball room, which remains and is used for the accommodation of the disabled soldiers referred to. Thirteen totally paralyzed men are already installed, and forty-two more are immediately expected. There will eventually be provision for 235 paralyzed patients, each having a separate room. The beds are being specially endowed, the first in memory of Nurse Edith Cavell, who was murdered in Belgium.

A RETIRED ARMY OFFICER.

LETTERS TO THE EDITOR

"Middle Class" Hospital Patients

To the Editor of THE MODERN HOSPITAL:

In a recent issue of THE MODERN HOSPITAL appeared an editorial signed by Dr. F. A. Washburn outlining a scheme which is to be put into effect at the Massachusetts General Hospital in an endeavor to solve the problem of better medical care for the middle class. This editorial greatly interested me because I firmly believe that a solution of this difficulty will prove of infinite good to the class of people it is aimed to serve, and also to prevent to a large extent the abuse of free out-department clinics.

During December, 1915, an opportunity was offered me to address the Orleans Parish Medical Society on the subject of abuse of charity from the standpoint of hospital management, and in my fifteen-minute paper, without being able to go into much detail, I advocated the establishment of pay clinics.

While Dr. Washburn's aim appears to be to enable private patients in medium circumstances to obtain the benefit of consultations of experts, my paper deals with the subject more from the standpoint of free clinic patients, but of the same class. I think a discussion of this very important subject would prove extremely useful to many other hospital superintendents as well as myself.

A. B. TIPPING,
Superintendent Touro Infirmary, New Orleans, La.

Pupil Nurses for Special Hospitals

To the Editor of THE MODERN HOSPITAL:

I am taking the liberty of writing you in regard to a matter which concerns us greatly at the Magee Hospital. I refer to the difficulty which we are having in securing pupil nurses in sufficient numbers and of the right kind. From what I learn, special hospitals everywhere are meeting with this same difficulty. It occurs to me that a discussion of this subject in the columns of your valuable paper would be most helpful.

The Magee Hospital is the most modern and the most completely equipped maternity hospital in the country, and I believe also the best adapted for teaching purposes. The hospital is affiliated with the medical school of the University of Pittsburgh, and the hospital teaching is in charge of full-time university instructors and of head nurses especially trained in obstetric nursing. In the combined clinics of the hospital and out-patient department we are caring for about 1,500 confinements a year, available for teaching purposes. Unusual opportunities are thus offered nurses to secure training in this important branch of medicine. In Pennsylvania and elsewhere throughout the country hundreds of nurses are graduated each year with little or no training in obstetrics. It does seem that some way should be found to give these nurses the training which they so much need, and which is to be found only in such institutions as the Magee Hospital.

CHAS. EDW. ZIEGLER, M. D.,
Medical Director Elizabeth Steel McGee Hospital, Pittsburg, Pa.

More Good Autopsy Figures

To the Editor of THE MODERN HOSPITAL:

In commenting editorially[1] on the fact that one hospital in America has been successful in obtaining permission for post-mortem examination in 58.5 percent of patients dying in the hospital, you state that this figure is not approached by any other hospital in this country.

I should like to call your attention to the fact that since the Robert Breck Brigham Hospital, of Boston, opened on April 1, 1914, complete autopsies have been carried out on 70 percent of all those dying (35 autopsies in 50 deaths). The figure for 1914 is 74 percent (14 out of 19 cases); that for 1916 so far, 100 percent (4 cases).

To compare these figures with those given by you for other hospitals:

	Percent
Robert Breck Bingham Hospital, Boston	70.0
Peter Bent Brigham Hospital, Boston	58.5
Johns Hopkins Hospital, Baltimore, one year reached	62.6
University of California, San Francisco	56.8
Presbyterian Hospital, New York	24.8
New York Hospital, New York	20.6
Boston City Hospital, Boston	14.7
St. Luke's Hospital, New York	14.4
Bellevue Hospital, New York	11.8
Mount Sinai Hospital, New York	7.3

A report of the scientific work of the Robert B. Brigham Hospital is soon to be published, and I do not wish to anticipate that report by commenting on the foregoing figures.

FRANCIS H. MCCRUDDEN.

[1] Autopsies Increase in Number. THE MODERN HOSPITAL, March, 1916, page 187.

Value of the Nurse-Anesthetist

BUREAU OF MEDICAL EDUCATION AND LICENSURE,
COMMONWEALTH OF PENNSYLVANIA.
Philadelphia, March 15, 1916.

To the Editor of THE MODERN HOSPITAL:

In your November, 1915, issue, on page 376, is a communication signed "Surgical Nurse" in regard to nurses as anesthetists, in which you rather discourage the employment of full-paid nurse anesthetics in small institutions because there is not enough work in the giving of anesthesia to keep them busy, and because of the cost.

Let me call your attention to the fact that such an employee in a small hospital is one of the most valuable individuals who could be placed on the staff. Her services as anesthetist can readily be combined with those of technician in the laboratory. They could also be combined with an assistantship in the x-ray department, and they could be most usefully combined with the record keeping. Small hospitals are notorious for not keeping records. If they keep any records whatever, they are not, in most instances, worth the paper on which they are written. The nurse-anesthetist could be made responsible for the records kept in the office, in the laboratory, and in the x-ray department, and she could be responsible for seeing that every department fill out its records and that they are properly filed.

If a charge be made to each private room patient for the services of this anesthetist, as should be the case, her services will cost the hospital nothing at all.

I know of no more useful individual in the whole hospital for the purpose of standardizing small hospitals than the nurse-anesthetist, with one or more of the above combinations of service.

JOHN M. BALDY.

Control of Tuberculosis

To the Editor of THE MODERN HOSPITAL:

Referring to your editorial on County Tuberculosis Hospitals in your issue of March, 1916, I wish to commend in the main the subject-matter of that editorial, but I feel that you make a mistake in recommending that tuberculosis should be treated from the public health standpoint precisely as insanity is. It is true that both tuberculosis and insanity are public health problems, but there the similarity ceases—one is an infectious disease and the other is not.

As you well know, hospitals for the tuberculous are only a part of the attempt at control of this disease; dispensaries and visiting nurses, with supervision in the homes, being other very essential features. As you say, there are more cases of tuberculosis in thickly populated centers, particularly cities. Most cities are making pretty good attempts at the control of contagious and infectious diseases through well-organized health departments, usually operating in conjunction with isolation hospitals. As you well know, the advanced cases of tuberculosis are considered the important centers of infection to control, and it is pretty definitely demonstrated that these cases should be segregated in hospitals within reach of their homes, as otherwise it is very difficult to keep them under hospital care; and, if dispensaries and visiting nurses are to be under the control of health departments, the care of advanced cases should also be controlled by the same authority and the hospital located near that community.

Of course, for counties containing few large cities there should be hospitals, serving one or more counties, more or less centrally located, and, as the tuberculosis problem is universal, all such hospitals should receive financial assistance from municipal, county, state, and Federal governments. In some instances it might be desirable to centralize control in the state authorities or the Federal health authorities working through the local authorities.

I think your editorial was well meant, but I think it is possible it might be misread and misinterpreted.

ROBERT M. STITH,
Seattle Department of Health, in charge of tuberculosis control.

Some Good Autopsy Figures

UNIVERSITY OF CINCINNATI, OHIO,
MIAMI COLLEGE OF MEDICINE.

To the Editor of THE MODERN HOSPITAL:

Referring to your editorial on page 187 of the March number of THE MODERN HOSPITAL, I call your attention to an extract from my annual report of the Pathologic Institute of the Cincinnati General Hospital for 1915:

"In 1914 the undertakers of Cincinnati met and agreed (most of them) that Mr. Charles O. Dhonau should be their special representative during postmorten examinations held at the hospital. Later, on the recommendation of the director, Mr. Dhonau was regularly appointed an assistant on the institute staff to have supervision of the care of the bodies, particularly with regard to their preparation for burial, and to work out new and better methods for their preservation. Mr. Dhonau has become one of the most valued assistants and advisers of the director. The result is that this hospital has greater possibilities than almost any other in the United States for intensive study of clinical cases from the anatomical standpoint. That this is extremely valuable, the clinical histories already show."

Month	Total (deaths)	Autopsies	Percentage
January	52	9	17.3
February	55	13	23.7
March	88	21	23.9
April	96	23	23.9
May	57	10	17.5
June	71	44	62.
July	76	49	64.4
August	63	36	57.1
September	50	31	62.
October	53	33	62.2
November	76	52	68.9
December	76	48	63.1
Total	813	369	45.4

	Deaths	Autopsies	Percentage
First half of year	419	120	28.
Second half of year	394	249	62.9

House autopsies	313
Coroner's autopsies under laboratory supervision	33
Coroner's autopsies	23

The increase of postmortem material was increased gradually, as the table shows.

Recently I asked my assistant, Mr. Dhonau, to give me the figures for the period since our system went into effect (June 1, 1915), and he reports that between June 1, 1915, and December 31, 1915, 293 autopsies were held from a total of 465 cases, a percentage of 63.

A table for comparison, using your figures, for hospitals of the United States would therefore read as follows:

	Percentage
Cincinnati General Hospital	63.
Johns Hopkins Hospital	62.6
Peter Bent Brigham Hospital	58.5
University of California Hospital	56.8
Massachusetts General Hospital	30.1
Presbyterian Hospital, New York	24.5
New York Hospital	20.6
Boston City Hospital	14.7
St. Luke's Hospital	14.4
Bellevue Hospital	11.8
Mt. Sinai Hospital	7.3

PAUL G. WOOLEY,
Director of the Pathologic Institute.

Disinfection of Laundry Goods

To the Editor of THE MODERN HOSPITAL:

The problem of handling and disinfection of infected linen has long been a problem for every thoughtful sanatorium executive. The query of the secretary of the New Brunswick County Sanatorium, published in the March issue of THE MODERN HOSPITAL, page 229, recalls vividly my own experiences and the present solution of this problem.

The Hospital Sanatorium of the city and county of Kalamazoo, Mich., is an institution of 40 beds for tuberculosis, a smallpox pavilion, and fever hospital. The tuberculosis patients, as admitted, are largely moderately advanced and terminal cases. Because of the latter type of patients, we consider our linen, particularly bed linen, laden with infection. To disinfect properly was one of our immediate problems on opening this institution two years ago. As was at that time the popular procedure, we fumigated carefully with formaldehyd, exposing the linen and garments conscientiously to the fumes. This necessitated at least three handlings of the linen—i. e., putting in the laundry bag, hanging garments on lines for fumigation, and again sorting for the laundry. All of this was done by a nurse, as the linen was sent to the city laundry. A well-equipped laundry was finally installed in the hospital.

A few months later, on visiting a city sanatorium, I noticed that their technic was to sprinkle 5-percent carbolic on their linen before sending to a city laundry. Never satisfied that formaldehyd was effectual, I determined to "really disinfect," and bought forty pounds of carbolic acid. Tub after tub of 5-percent carbolic was made and clothes soaked overnight, and wrung out laboriously by the superintendent, so that the laundress might make a good start. Just as this technic was established, the European war sent carbolic prices skyward, and even with my lucky purchase we could not afford to use carbolic for our ever-increasing laundry.

In working out the solution of this problem, we had these points in view: (1) to disinfect linen, (2) to protect employees from infection, (3) to keep the laundry clean and free from infection, (4) to disinfect cheaply. The large sanatoriums that were visited had steam sterilizers for mattresses and linen—clearly the ideal disinfection. This being utterly impossible to acquire, we decided to limit the infection to the laundry bags. A number of bags were made, and arranged in the wards during bath hours. As the nurse or patient changes his bed linen, it is rolled up tightly and placed in the white bag—woolen underwear in a special bag, hose in another, cotton underwear and pajamas in another, etc. The nurse and patients learn the sorting order perfectly. Bags are closed and carried to the laundry. The laundress opens the bags

and empties the contents into the big washer, shaking out the contents without touching them. A hot suds at 170° (low-pressure boiler), plus steam, is turned on the clothes for thirty minutes, followed by another suds and the usual bleach, etc. The subsequent mangling or ironing of linen is considered quite adequate to complete the process of disinfection. To be sure, woolen underwear, blankets, or colored clothes cannot have the steam treatment, and herein probably lies the weak point in our armor. We feel, however, that we avoid all unnecessary contact of employees with laundry in this method. With carbolic practically unobtainable, most sanatoriums are hoarding their stock for disinfection of sputa spills, and those with any quantity of laundry could ill afford the time required by 5-percent carbolic to kill or inhibit the action of the tubercle bacillus.

All contagious linen, except that from smallpox patients (which is previously soaked in hot bichlorid solution), is washed separately, though following the same routine as described above. We do not encounter any difficulty in the attitude of employees toward the laundry work. Conducted as some sanatorium laundries are, with little thought to limiting infection, the phthisophobia of employees may be readily excused.

In conclusion, I may add for the benefit of the skeptic that linen laundered by this method compares very favorably with that of commercial laundries.

CHARLOTTE JANES GARRISON, R. N.,
Superintendent Hospital Sanatorium, Kalamazoo, Mich.

The Survey of the Hospital

To the Editor of THE MODERN HOSPITAL:

Will hospitals be surveyed?

To many hospital managers the term "expert" suggests one of two extremes—unbounded confidence or unbounded disappointment. The one extreme is as unreasonable as the other. There are experts and experts. The greater the expert, the less apt he is to call himself an expert or to ask anyone to rely on his opinion, and the more apt he is to insist that his client shall form an independent judgment after facts are presented.

To be expert in the management of hospitals calls for qualities greater in extent and more numerous than to be expert in analyzing work undertaken, work done, work not done, and methods employed by a hospital.

Managing a hospital efficiently means that the manager must be making every day and every month the kind of analysis which efficiency experts or surveyors are occasionally called in to make. Readers of THE MODERN HOSPITAL must agree with the editorial judgment expressed in the March number that the best possible surveyor of any hospital is the hospital manager who knows what is expected of his hospital, what his coworkers are doing, and whether either money or knowledge is wasted.

Because the human mind seeks routine and ruts, and because hospital managers live so close to their job that they lose sight of the woods for the trees, it is found helpful to bring in from the outside new pairs of eyes, new questions, disinterested analysis, and frank criticism.

American hospitals will be surveyed for the same reason that American colleges will be surveyed, and for the same reason that American cities and American states are being surveyed.

Hospitals need money; this need is becoming more urgent every year. Yet hospitals have more competition every year from other hospitals and from other appealing agencies. Givers are getting "gun shy." This is true, whether givers are wealthy private citizens or the tax-paying public. Those who have money and interest to give to hospitals are not satisfied with what the person on the inside thinks about his hospital or what his board thinks about it. They want to know how the hospital ranks with efficient hospitals in the same city or other cities. They want to know how its work compares with its claims and with the needs of the clientele it serves.

Surveys, or efficiency studies, or expert analyses will be generally demanded as the shortest cut to answering questions that are multiplying in the minds of prospective givers. Hospital surveys will be made by insiders and also by outsiders. The more we have of self-study or auto-surveying, the more will the outsider be brought in to help hospitals see themselves in terms of the outside world to which they appeal for funds and from which their patients come.

No one will be more keen to call for outside testing than those hospital managers who have exhausted their own powers and, to the best of their knowledge, have nothing to gain from outside study. If any hospital has received absurd advice from a so-called efficiency expert, it is because the wrong expert was brought in and the wrong conception of efficiency employed.

A certain city paid $1,300 to two "insiders" of national and international reputation for a study of its health department. In return that city got a report not worth, for practical purposes, 1,300 cents. Later an "outsider," totally inexpert in health administration, totally unacquainted with hospital management, but skilled in breaking up questions into their component parts, skilled in personal relations and in the art of drawing out from insiders their definition of their program and their obstacles, made a brief survey, secured cooperation from the first day, and effected a 100-percent reorganization of that department to the profound satisfaction of insiders and outsiders alike.

In health management, Dr. S. S. Goldwater, a hospital superintendent, was a "rank outsider" when he became health commissioner of Greater New York. Yet, when in the history of municipal sanitation has so much happened in so short a time to make insiders thrill with their opportunity and rise to efficiency standards of vision and achievement as during Dr. Goldwater's eighteen months?

From the standpoint of hospital management, Health Officer Goler, of Rochester, might technically be considered an outsider. Yet, does the hospital exist which under Dr. Goler's leadership would fail to become a radiating center of planning, teaching, and constructing along hospital lines?

While it is true, as THE MODERN HOSPITAL states, that "the product turned out of the modern hospital is health," it is also true that there are many other products—such as heat, light, cubic air space, motion of air, diet, food waste, cleanliness, personal service, examinations, transfers—every one of which can be located, measured, and tested as to satisfactoriness. Not one of these products can, in justice to patients, be neglected. With respect to which one of them dare any hospital in the country openly avow its satisfaction with a 50-percent or 70-percent rate? With regard to which will any hospital manager say he is satisfied with "fair" rather than with "correct?"

By asking the right questions about the plans for Bellevue Hospital, Dr. Goldwater was able to save over $1,000,000 on one division alone. By asking the right questions about ice, Mayor Mitchell, when commissioner of accounts, discovered short weights and other waste. By asking the right questions about bandages, Dr. Brannon found a bandage unit entirely satisfactory to sur-

geons, which saved over $150 a week. Asking the right questions about what happened to soldiers and the different kinds of treatment, bandage, and antiseptic solution, has revolutionized surgery not only in the trenches, but in the hospitals. Oftentimes it is easier to see a principle when applied to others, on the theory of the Irishman who was glad to enlist all his wife's relatives in the war.

This question of hospital tests finds analogy in several other fields. If school work were cited, hospital insiders might feel that school work in its character lends itself to definite testing in ways not applicable to hospital service. Between the work of a librarian and the work of a nurse there seem enough points in common to justify mentioning report forms used by Miss Hazeltine, perceptor of the Wisconsin Library School, which will soon find counterparts in hospital work generally. Just as nurses are sent out into different hospital wards for different kinds of work, or sent to a maternity hospital, or here and there into field service as part of their training, so Miss Hazeltine has arranged for city librarians throughout Wisconsin to take as apprentices library students. What kind of information does the person at headquarters responsible for certificating a nurse or a librarian need before staking the reputation of a library or a hospital? You know how vague and indefinite is the information usually recorded about high grades of personal service. Miss Hazeltine felt the need of something more specific, because, when we deal with generally worded credentials, all nurses or all librarians look about alike. Excellences are used to offset deficiencies. Two persons of identical averages in percents or even in terms like "fair" will, on closer examination and testing, disclose notable weaknesses or at least notable difficulties.

The personality points of the Wisconsin Library School are noted under fourteen heads. Please observe that for each, four different degrees are offered for marking:

Enthusiastic	very	moderately	little	lacking.
Sympathetic	very	moderately	little	harsh.
Even tempered	always	fairly	not very	irritable.
Tactful	very	fairly	not very	blundering.
Adaptable	very	moderately	not very	inflexible.
Sense of humor	much	moderately	little	unduly serious.
Resourceful	very	moderately	not very	dependent.
Industrious	very	moderately	not very	indolent.
Dignified	always	moderately	not very	undignified.
Personal neatness (dress, etc.)	very	moderately	not very	slovenly.
Courteous	always	generally	not very	discourteous.
Manners	gracious	fairly	common	rude or boisterous.
Winning (appeals to adults)	very	fairly	not very	antagonizing.
Winning (appeals to children)	very	fairly	indifferent	repelling.

There are 14 points under "professional fitness," each again noted under four different degrees; 21 "good points that will make for student's success;" 23 "weak points that will make for student's failure," such as poor health, nervousness, blasé, forbidding appearance, bluff, talks too much, etc.

Finally, there are 21 points regarding student work, which are here listed for the suggestions they may give to managers of hospitals and training schools searching for specific tests of employees and students—charging books, slipping books, helping patrons select books, collecting fines, keeping statistics, mechanical work, accessioning, classification, cataloging, alphabeting, reference, book selection, story telling, publicity, work with schools, mending, preparation for bindery, picture work, inventory, typewriting, library hand.

Would hospital workers prefer to have their work judged on the basis of generally worded impressions or on the basis of specifically worded statements of fact, that can be checked and easily found to be either correct or incorrect? Would anyone doubt that workers specifically informed as to just what part of their work was unsatisfactory would make more progress than if told that "somehow or other, on the whole," their work was unsatisfactory?

WM. H. ALLEN, M. D.,
Director, Institute for Public Service, New York.

More About the Intern Question

To the Editor of THE MODERN HOSPITAL:

The interesting article entitled, "The Intern Question—Where Lies the Trouble?" by the superintendent of Touro Infirmary, New Orleans, published in the April issue of THE MODERN HOSPITAL, would indicate that some old conditions still exist to vex hospital administration.

The article referred to covers the ground so completely and satisfactorily that additional comment seems superfluous, yet some further thoughts suggested by the reading may not be amiss. The writer truthfully says: "They (the interns) must remember they are students, not in charge of patients, but in attendance on them under the instructions of their chief." Herein, doubtless, is the root of the difficulty. The interns, as a rule, do not so classify themselves, and the attendants, as a rule, do not impress this fact on them as they should. On the contrary, the average intern looks forward to his term as "house," when he will be in the actual charge of the patients on his division, and the conduct of the attendants justifies him, too frequently, in maintaining that attitude. It is a safe statement to make that a very large number of patients pass through the hospital without having received any attention or treatment by the attendant. When such facts are referred to him, the reply is elicited, "My attention was never called to them." This is undoubtedly true, and it is equally true that there are many cases which the attendant does not expect to have referred to him, and which he would regard with such indifference, if referred, as to justify the "house" in not mentioning them and in retaining the treatment in his own hands.

Of course the attendant cannot know, of his own knowledge, of the admissions to his division, but why should he not receive at each visit a detailed statement of all such admissions since his last visit? It is not sufficient that this should be merely one of the multitudinous "regulations" of the hospital. Probably the rule or its equivalent prevails in all hospitals, but it should be enforced. It should be an imperative condition of intern service, demanded by the attendant in the first instance, and every failure reported by him promptly to the hospital administration and made a matter of discipline. As a matter of fact, does the average attendant either expect or desire such reports? Would not his manner, if not his words, too often be a practical rebuke to the intern for bringing unimportant matters to his attention? And, if so, can one wonder that even a conscientious intern would hesitate in the matter, and even decide to err in the wrong direction rather than incur rebuke? And as for the intern who is not influenced by conscientious scruples, but whose aim is to secure as much "friction" as possible during his term of service, there is here ample reason for his indulging himself in that direction. He knows he will not be called to account by his attendant, even if the latter learns, by chance, that some patients whom he should have seen have slipped through the service without his knowledge.

There is, probably, no other profession or calling wherein men have grave responsibility imposed on them at so

early an age as in the case of the hospital intern. He enters on his duties young, fresh from his theoretical studies, and after a year or eighteen months he has practical charge of the patients on his division. This is not true in theory, but it is true in the actual working out of the scheme. The average attendant relies on him, as he must, to "call his attention" to what he ought to see. He does not see every patient, nor wish to. Here the matter is left to the discretion of the "house."

There are, of course, many notable exceptions to this condition among both attendants and interns, but most of those experienced in hospital work will accept the statement as made. Of course, in a business like that of a hospital, where there is so much of the emergency class, when time is an important factor and delay is impossible, the "house" must, in the nature of the case, frequently attend to matters of the utmost gravity and assume the responsibility for it; this, however, should not be done, even in such cases, without earnest efforts to find an attendant (not necessarily the particular attendant of the division to which the patient is assigned) and make a detailed report to him on the first subsequent opportunity.

There has always been an "intern question," and there always will be. The young man wants the experience. He is in the hospital service for the purpose of gaining it; otherwise it would have no attraction for him. It is quite natural that he should assume authority in many instances rather than miss it. There are those who are bumptious and combative by nature, and who will exhibit these traits in any sphere of activity. Perhaps the atmosphere of the hospital is more favorable to this growth and development than that in other lines of business, yet it is doubtful if their presence is more conspicuous there than elsewhere. Nevertheless, that they are there in altogether too frequent and troublesome quantity is undoubtedly true. But the interns, as a class, do good work. They meet their responsibilities with an alacrity and ability which is altogether commendable. The wonder is that so few mistakes are made. In criticising the system, one should not be unmindful of the very large number of individuals who rise superior to the system, and who do most excellent work in spite of it. But the responsibility for the criticism lies with the attendants. They are the immediate superior officers. The exclusive duty of the treatment of patients is theirs. The interns are their subordinates and assistants, and they should be made to understand clearly within what limits they may act independently.

GEO. P. LUDLAM,
Superintendent Emeritus The New York Hospital, New York.

The new Noyes Memorial Hospital at St. Joseph, Mo., erected at a cost of $250,000, was opened for service April 15. Miss Florence Burt is the superintendent. The building is a four-story and basement structure, 48x140 feet, with a capacity of 125 beds. The scale of prices for accommodations has been arranged so that patients will be able to obtain beds or rooms at prices they can afford to pay, regardless of their financial condition, and no person needing hospital care will be turned away because he has no funds. All reputable physicians will be admitted to practice.

The Maryland General Hospital, Baltimore, is abandoning the one-man administration plan. The medical affairs of the institution will hereafter be directed by one man and the business affairs by another. Dr. Elmer Newcomer, now assistant superintendent of the University Hospital, Baltimore, will be the medical superintendent, beginning June 1. Mr. William H. Dallam, formerly assistant to the purchasing agent of the Merchants and Miners' Transportation Company, has already assumed the duties of business manager.

NEW EQUIPMENT

A New Device for Inspecting Supplies for Hospitals

INVENTED BY H. M. FOSTER,
Examiner of Purchase and Supplies, Bureau of Contract Supervision, Board of Estimate and Apportionment, New York City.

Are we getting our money's worth? That is the question—the perpetual question in the mind of the hospital manager. He knows that his answer will be held as a test of his management by those in authority over him, and he knows that his ability to answer the question satisfactorily depends on the correctness and thoroughness of the information given him by his subordinates. If he is a good economist, it is his object to get the most and the best for the money spent for men and things. As a supervisor it is his business to correct waste, whether of effort or articles, and to improve methods of work and use. In order, then, to answer the question of money's worth, he must know all the necessary facts from those under him, and how to use such information when he gets it.

The amount of expenditure depends on the quantity and quality of what is bought. The quantity depends on the periodic consumption—that is, the proper quantity for a certain purpose for a given time. The quality depends on the purpose—that is, a given article might be right for a certain purpose, but improper for another purpose. The obtaining of the proper quality depends on knowing beforehand what is required and knowing afterward that it has been received. This knowledge depends, in turn, on proper inspection, and it is the purpose of the machine here described to afford a more thorough inspection of supplies and to reduce the time and labor formerly consumed in such work.

The modern hospital buys almost as many kinds of supplies as does a railroad or any other large commercial corporation. The kinds of supplies which can be inspected by use of this machine may conveniently be enumerated under five classifications, as follows:

Food	Forage	Construction	Hardware	Horticulture
Cereals.	Barley.	Cement.	Bolts.	Bulbs.
Coffee.	Bran.	Gravel.	Nails.	Seeds.
Flour.	Corn.	Sand.	Nuts.	
Fruits.	Meals.	Stone.	Screws.	
Meals.	Oats.		Washers.	
Vegetables.	Vegetables.			

In fact, anything can be so inspected which is delivered in a suitable container (such as a bag, sack, barrel, keg, or box) which is not too delicate to stand the more or less rough usage of being dumped, and which must be spread out to be properly seen.

Take potatoes as an example. The present manner of inspecting potatoes is crude in method, inadequate in extent, and wasteful of time and labor. It frequently happens that potatoes, which have been accepted as satisfactory by an inspector, when they are delivered to the kitchen to be cooked are found to be decidedly unsatisfactory. The reason is that the inspector did not have an opportunity to see all the potatoes. If they were loose

in a freight car, he saw merely a large pile, and could actually inspect only those on the surface. If they were in bags or barrels, he emptied only a few of these, or perhaps he simply opened them and saw only the tops.

Suppose a truck load of 100 bags of potatoes is delivered. The truck driver throws off one bag from the tail of the truck, stands it up on its bottom end and cuts the string sewed in the top end and pulls it out. Then he

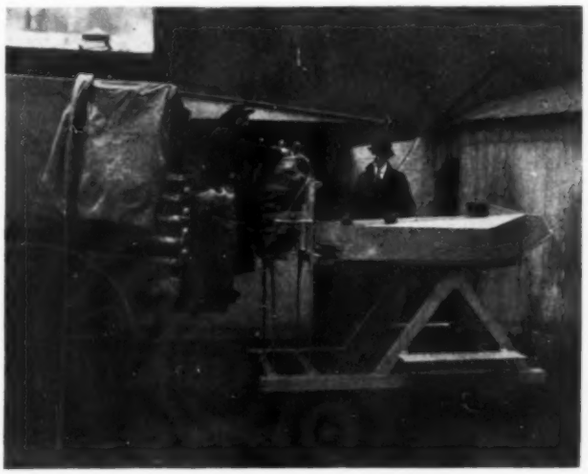


Fig. 1. The bag is placed on the dumper and its string is cut.

topples the bag over flat on the floor and a few potatoes from the top spill out. The floor on which they are spilled is not always clean enough for such use. Next, the laborer has to take hold of the bag and pull it up until the bag is entirely emptied of its contents. A bag of potatoes weighs from 175 to 200 pounds, so that this is heavy work. The operation is repeated two or three times for two or three more bags to be emptied. If the inspector is in doubt, another and another bag must

Fig. 2. The potatoes are spread out in the tray and inspected.

be emptied until he has reached his decision. Please observe that all these bags are taken from the tail end of the truck. When 75 or 100 bags of potatoes are loaded on a truck, they are packed together so tight that it is practically impossible to pull out the bag in the center, or even bags in random places throughout the load. The knowledge on the part of the seller that, for the purpose of inspection, the bags must be taken from the tail end of the truck, offers to unscrupulous dealers the opportunity to place there potatoes of good quality and to conceal those of inferior quality elsewhere. Because of this condition, it frequently happens that fruits and vegetables are formally accepted by an inspector, as of satisfactory quality on the basis of such inspection, and later, on being used, a large portion of the remainder, which, on account of the conditions described, has not been seen by the inspector, is found to be of decidedly inferior quality.

At the average hospital there is neither time nor space, nor are adequate facilities provided, for any better means of inspection than those described above. By the machine illustrated herewith it is intended to reduce the time and labor involved, and to afford means for a thorough inspection of all, or at least a far larger portion than at present, of a delivery of such supplies. The machine is mounted on swivel wheels, similar to those used on a hospital stretcher, to allow it to be pushed about easily and in all directions.

In the case taken as an example, that of a delivery of a truck load of potatoes, the machine is wheeled up to the tail end of the truck and a bag of potatoes is easily

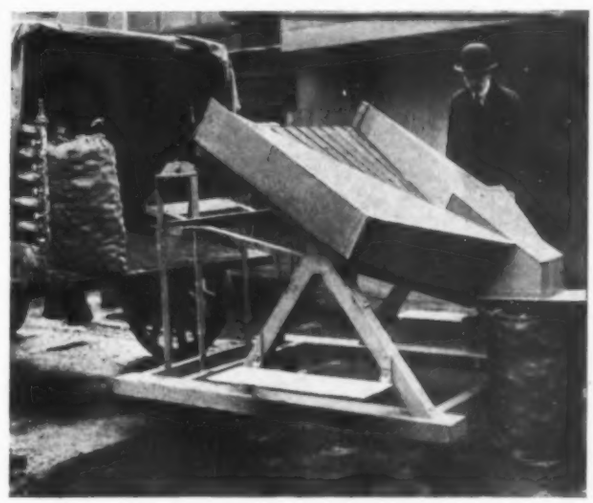


Fig. 3. The gate of the spout is drawn out and the potatoes are back in the original bag.

shoved on to the dumper. This dumper is hung on a shaft about which it revolves through the proper arc, and its floor is braced by side straps and brackets riveted to the bottom. The upright portion is intended to hold the bag in a position so that its contents will easily flow out. Ordinarily, when a bag is emptied, its upper part, as soon as a small portion of the contents has been discharged, flaps over on itself and prevents the remainder of the contents from emptying easily. By holding the bag in position by means of the upright portion of the dumper and the straps on both sides, this clogging is obviated. As soon as the bag is placed in position on the dumper, the string of the bag is cut and by a slight push it is tipped over and its contents spread out over the floor of the tray. The inspector stands upon the folding step on the side and sees the entire contents of the bag spread out before him. On reaching his decision as to quality, he pulls out a pin, which allows the tray to descend forwardly to the position shown in the illustration, and the potatoes slide down the incline to the mouth of the spout. From there, when the closing gate is lifted, the potatoes run out of the spout and fall into the original bag. The bag is held open and hung from the spout by hooks around its perimeter. The hood is intended to prevent the potatoes from spilling out or

bouncing over the top when the tray is tilted. The interior sides of the tray converge from the receiving end to the delivery end, so as to guide the potatoes into the spout.

The uprights which support the dumper may be made in two sections, the lower sections fitting into the upper, with holes in each through which pins may be inserted. The intention of this arrangement is to allow the height of the dumper from the floor to be adjusted so that the dumper may meet flush with the floor of a truck or freight car. The object of this arrangement is to avoid the labor of lifting the bag. The side platforms or steps on which the inspector stands are supported by hinged brackets. When the machine is not in use, these steps are folded up out of the way and thus take up less room. The receiving tray is balanced on its shaft as an axis, somewhat anterior to the center of gravity, and properly counterweighted at its forward end to allow the forward end to descend immediately when the holding pin is taken out. The object of this arrangement is to obviate the labor of pulling down the tray when it is loaded with potatoes. While the potatoes are being inspected, the bag from which they have just been emptied may be tossed to the forward end and fastened to the hooks around the mouth of the spout. The object of this arrangement is to obviate the necessity of having extra bags on hand. The floor of the tray is built of slats, each one tapered and rounded to facilitate sliding, and these slats allow the dirt to fall between them. Also, these slats can be fixed at varying distances apart so as to act as a sorting device for size. Undersized fruits and vegetables drop through and are discarded.

By means of an extra tray made to fit into the permanent one and having a solid floor—that is, without slats—grains can also be inspected, such as oats, corn, and even flour. Thus the entire contents of a bag can be properly inspected instead of simply a handful.

The process of inspecting supplies by use of this machine may be better explained by the accompanying illustrations than by words. The first picture shows the bag of potatoes on the dumper, with the truckman untying the bag; the second shows the potatoes spread out for inspection, and the third shows the potatoes back in the original bag.

From the foregoing description and illustrations it should be obvious that the time and labor consumed in the present method of inspecting fruits and vegetables will by this machine be reduced to a minimum. Furthermore, a far fuller knowledge of a delivery will be obtained. Instead of taking only a few bags from the tail end of a truck and depending on those for a knowledge of the whole delivery, all the bags may be inspected, or a far greater number may be thoroughly inspected in equal time. The first, eleventh, twenty-first, and so on may be taken; or the first, sixth, eleventh, and so on. In this way a thorough examination may be made of bags of potatoes throughout the whole delivery.

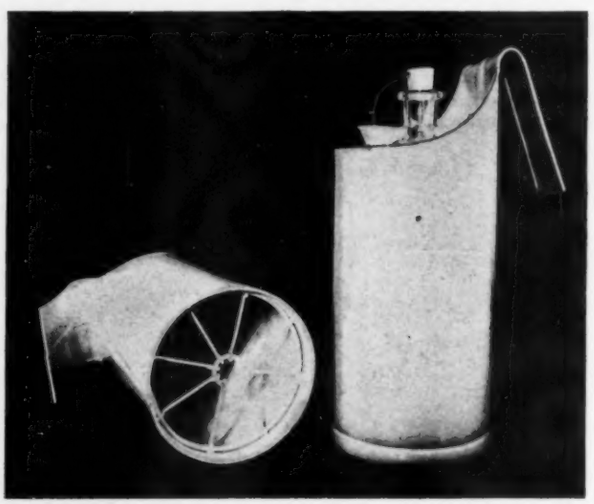
The practice of putting supplies of good quality where it is known they will be inspected and concealing those of inferior quality will easily be detected. "Topping" will just as easily be discovered. "Topping" is a trade term for the practice of putting supplies of good quality on the top and concealing those of inferior quality beneath. Another trick of the trade is to put a stovepipe in the middle of a barrel and pack the fruit or vegetables in so tight around it that they will retain their position when the pipe is drawn out and an empty space left in the middle, and then boards are placed across either end just far enough in from the top and bottom to allow a few layers to be packed there to conceal the hollow. This fraud will easily be revealed.

This invention was developed as a result of years of experience with the lax methods at present in use. It was made by the writer when he was an inspector of repairs and supplies in the employ of the government of the city of New York. By law an employee of the city is prevented from profiting directly or indirectly by the sale of an article to the city government, and the inventor gave permission to the city to construct as many of these machines as would be needed for its own use. This permission has been accepted by the Board of Estimate and Apportionment on behalf of the city, and the machine has been constructed and is now being used in the institutional departments which buy such supplies. It is in successful operation in the Department of Public Charities and in Bellevue and Allied Hospitals. The departments of health and correction have begun to make machines for their use and the department of street cleaning is considering making a large number for inspecting oats at its many and widely scattered stables. The machine has also been favorably commented on by the United States Department of Agriculture, by the navy, and by many large manufacturers.

Improved Urine Bottle Holder

The illustration shows a holder which we use in collecting 24-hour amounts of urine, and am sending it with the idea that it may be of interest to the readers of THE MODERN HOSPITAL.

With us the practice of obtaining 24-hour amounts of urine has become so general that it has proved very difficult to be sure that urines of all the patients have been correctly collected. In case the bottles are kept in the toilet rooms, there is great danger of specimens being thrown out or poured into the wrong bottle. To overcome this, we have made a five-pint bottle container as suggested



Improved urine bottle holder.

by our chemist, Dr. Willey Denis. The interesting features are as follows:

The holder, which is made of galvanized iron, is white enameled. The bottom is openwork wire, to prevent the accumulation of dust, moisture, etc. The container is hung on the side rail of the bed, and because it is white it is not conspicuous. A cork stopper is tied to the bottle to prevent loss. A small enameled iron funnel is provided with each holder. If the patient is able, he pours the urine into the bottle from his urinal; if not, this is done by the nurse.

For genitourinary cases, on constant drainage, it also makes a convenient receptacle for collected urines. The cost to us of all receptacles, unpainted, is $1.00 each.

JOSEPH B. HOWLAND,
Assistant Administrator Massachusetts General Hospital.

A Simple Method of Giving Saline Subcutaneously and Intravenously in Use at the Royal Victoria Hospital, Montreal, Can.

In the giving of saline intravenously, there are some slight difficulties which I think could be overcome by the use of a receptacle or flask, which I shall describe later. Let us consider the drawbacks which exist in the old method of giving saline intravenously:

1. The monotonous and tiresome act of having to hold the funnel at arm's length, and the occasional overflow of same when fluid is too vigorously poured out from flask by the assistant.
2. The unequal pressure of fluid in the funnel.
3. Possibility of air getting down into the tube, due to allowing the funnel to empty itself.
4. Exposure to air and contamination.

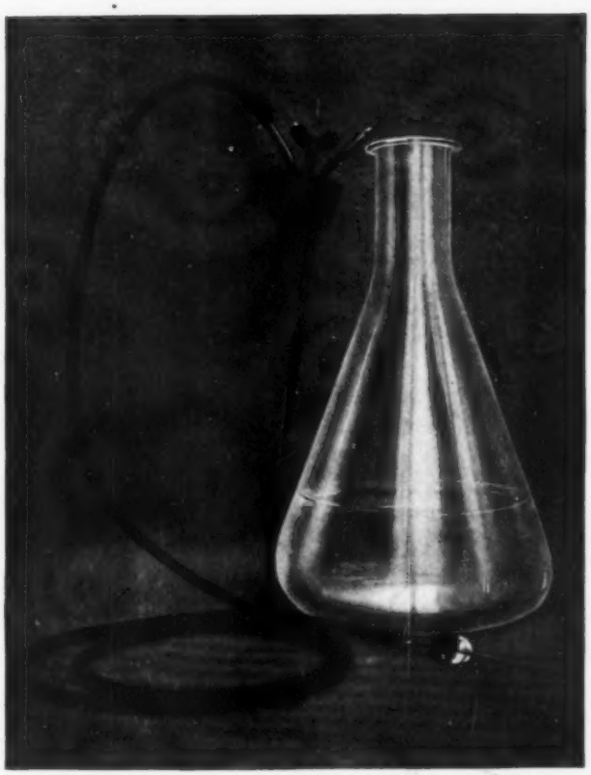


Fig. 1. The cork removed.

The simple device, which has been worked out with the kind assistance and valuable suggestions of Miss Felter, head of the operating department of the Royal Victoria Hospital, is as follows: It is a continuous flow arrangement, which, when suspended from a stand, avoids the need of an assistant. The flask is an ordinary one (Erlenmeyer), such as is generally used in a hospital, and the cork is made of soft rubber with an adjustable screw running through it, attached to a small plate on its inner surface. This, by the use of the thumbscrew on the outside, will enable the cork to fit any ordinary sized bottle, having the same action as the plunger of a syringe.

The long tube is placed through the cork and into the flask, allowing air to enter whenever the flask is turned bottom up, thereby regulating the flow of fluid. The short bent tube on the opposite side is for the flow of fluid, and to it is attached the rubber tube, with its cannula, or needle, at the end. The advantages are as follows:

1. Doing away with the funnel and open flask arrangement.
2. No overflowing of fluid.
3. Regular pressure and uniform flow of fluid.
4. Simplicity of apparatus.

Fig. 2. The cork inserted.

5. No possibility of air getting into tube after flow has started.
6. No possibility of fluid becoming contaminated by exposure to air.
7. Easiness of sterilization.
8. (VERY IMPORTANT) No need of *assistants* after flow of fluid has started.
9. No danger of cork coming out of flask when inverted.

E. C. LEVINE, M. D.,
Clinical Assistant at the Royal Victoria Hospital.

The proposed Jasper County (Mo.) Tuberculosis Sanatorium, for which a bond issue of $100,000 was voted last fall, is to be a two-story and basement reinforced concrete structure. It will have a frontage of 250 feet and the depth of the main part will be 60 feet. Back of this there will be a projection, 40 by 50 feet, containing a laboratory, an eye, ear, nose, and throat inspection room, an x-ray and electrical room, the head nurses' quarters, and a small dining room for attendants. The kitchen will be in the basement. Pergolas extending for 125 feet will lead out from the building, and there will be a large roof garden. On the interior, ramps will be substituted for stairways. The normal capacity of the institution will be 100 beds, but provisions will be made for caring for as many as 125 patients when necessary. Rose & Peterson, of Kansas City, Kas., are the architects.

The King's Daughters' Hospital at Perry, Ia., has a new superintendent in the person of Miss Mildred Bennington. Miss Hokanson, the former superintendent, resigned to take up surgical nursing in the Lutheran Hospital at Des Moines.

An institution to be devoted to the treatment of tuberculosis and kindred diseases is to be established at Pocatello, Idaho, by the Intermountain Sanitarium Company, capitalized at $50,000. Drs. J. C. Arnout and H. S. Wooley are interested in the undertaking.

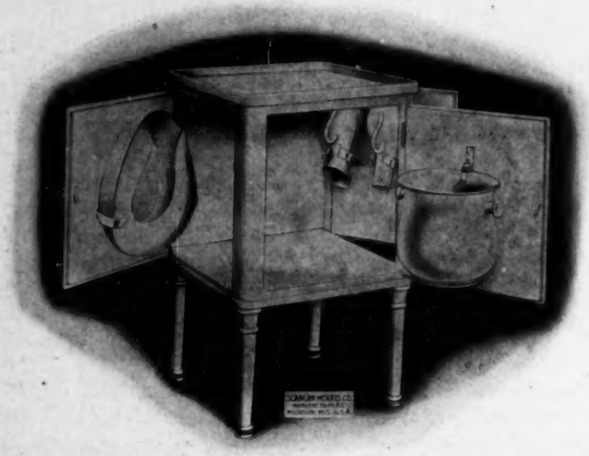
NEW INSTRUMENTS AND APPLIANCES

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Private Room Cabinet

This cabinet, neat and attractive in appearance and thoroughly sanitary, is constructed to hold a ped pan, male and female urinal, and a slop jar. The cabinet, with utensils, assures the patient of having at all times during his stay at the hospital utensils for his individual use, and in private rooms patients are beginning to demand this.

The utensils fit into nickel-plated racks attached to the



"White Line" private room cabinet.

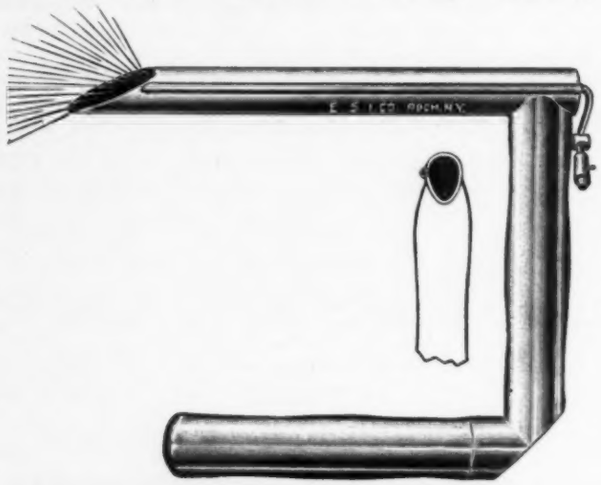
inside of each door; the doors, each swinging out, away from each other, render it easy for the nurse to get at the utensils, and, when the doors are closed, makes a very serviceable piece of furniture in the room. The top is of depressed porcelain enamel, 20x20 inches, and serves admirably as a table or wash stand. The body of the cabinet and the close-fitting doors that carry certain utensils are of steel, finished in white enamel.

Anterior Commissure Laryngoscope

BY DR. CHEVALIER JACKSON, Pittsburg.

There is a variety of speculums on the market for examining the larynx, the trachea, and the esophagus for the removal of foreign bodies, papilloma, etc., but none of these are quite suitable for the purpose of examining or operating on the anterior commissure of the larynx. To facilitate this procedure, Dr. Jackson had a speculum constructed as shown in the illustration. This speculum is used at the side of the tongue over the dorsum, and, as this position approaches the larynx somewhat sidewise, some experience is necessary in order to at once recognize the landmarks.

This instrument is provided with an auxiliary tube for the reception of the light carrier and lamp, and the light



Jackson's anterior commissure laryngoscope.

shines through a fenestrum at the distal end directly on the tissues in advance. As the lamp is in a sunken chamber, instruments may be passed through the tube without the slightest danger of breaking the bulb, which has a tungsten filament, giving a brilliant light and practically no heat. The instrument does not replace the regular slide speculum for general work, but those who have had difficulty in certain cases in exposing the larynx will find such exposure feasible, even in the most difficult cases, as the heart-shaped lumen in this instrument presses the tissues away from the visual line to the anterior commissure.

Protective Face Shield

BY DR. C. F. HEARD, Erie, Pa.

The importance of protection against infection when examining tubercular and other patients suffering from some infectious disease is now universally recognized. To afford this protection, a number of devices have been put

Heard face shield.

on the market, and one that has been mostly used is a glass plate, either supported on a pedestal or suspended from the ceiling. These glass shields are satisfactory as long as they are used only for the purpose of examination,

but they are more of a hindrance than a help as soon as any operative procedure is attempted, such as removing tonsils, papilloma of the larynx, etc. To overcome this difficulty, Dr. Heard had a mask constructed of transparent material, which is worn in the same manner as a pair of spectacles. On account of its extreme lightness, this mask can be worn for hours without causing the wearer the slightest inconvenience.

This device was presented at the meeting of the Academy of Ophthalmology and otolaryngology last fall and attracted very favorable comment.

Water Pressure Dynamo

The water motor dynamo, operating as one unit, as shown in illustration, seems to offer suggestions for extensive use in sanatoriums and hospitals which are not supplied with electricity. Many of the smaller cities have electricity available only at night, others not at all, and a galvanic current for nerve testing, nerve stimulant, and other cases where galvanic current is indicated would often be of great help.

The comparative uncertainty of dry cells for this class of work has discouraged many physicians from installing

The M.-W. water motor and dynamo.

a battery apparatus. The outfit consists of a water motor, which is attached directly to a faucet and a direct current dynamo. This dynamo has a capacity of approximately twenty-four watts, which is ample for all ordinary purposes where a comparatively light galvanic current is desired. The extreme simplicity of the equipment and small expense of operating make it an apparatus worth considering. The manufacturers of this equipment also make a grinder, which is operated in the same manner. This might find frequent use in the hospital for sharpening knives, buffing silverware, nickel-plated instruments, etc.

Scientific Baby-Feeder

What seems to be a rather practical device has recently been put on the market under the name of Kolb scientific baby-feeder. As will be seen from the illustrations, the device consists of an adjustable rod extending from one end of the crib or bed to the other, and is attached to the head and foot end by means of spring clamps, the upper portion of which is neatly covered. Two sliding collars are attached to this rod, from which are suspended two slings of cord, which in turn are fastened to an enameled wire cage of a size suitable to hold the regulation baby bottle. By means of an ingenious attachment on the slings it is possible to suspend the bottle at any desired angle while the baby is feeding. The cage is of a size that allows the bottle to be slipped in and out without special effort, and is also large enough so that a cover can be slipped over the bottle for the purpose of retaining the warmth if it should be felt that this is desirable.

When the bottle is once placed in the cage and put at a certain angle, it will remain there, so that the baby will always be able to find it again and feed itself. Specialists

Fig. 1. Kolb baby-feeder. Child lying in crib.

who have made a study of the problem of feeding babies seem to agree that, where a convenience such as this is provided, the disposition of the baby would be to persist in feeding until the bottle is empty, instead of taking it up from time to time until the milk may have spoiled and has become unfit for consumption.

This device will undoubtedly be of special interest to hospital workers who are in charge of maternity wards, because it seems to be not only a great time saver and convenience, but a safe and scientific apparatus to increase

Fig. 2. Kolb baby-feeder. Child sitting in crib.

the efficiency of their departments. There need be no fear of contamination, as the slings and cage can easily be rendered sterile.

The apparatus has been put on the market by the Kolb Specialty Company, of Philadelphia, and can also be secured at surgical supply houses and high-class department stores.

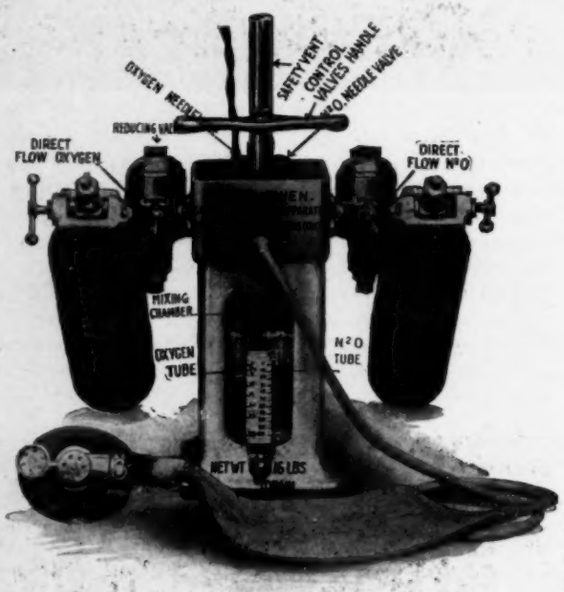
The Will Walter Gas-Oxygen Apparatus

At the suggestion of Dr. Will Walter, of Chicago, the apparatus illustrated is now being manufactured, and, as its construction embodies some principles which are new, and as it is also of such design as to make it a practical

hospital anesthetic apparatus, we believe it well worthy the investigation of the hospital people. Compactness is one of its strong points, being small and light enough that it can be easily transported, yet having the modern attachments for prolonged and deep anesthesia.

The apparatus carries two nickel-plated, brass regulating valves, with silver diaphragms. These valves are permanently set and require no adjusting. From the regulating valves the respective gases are carried through their control valves, needle valves, and tubes to the mixing chamber. The needle valves operate independently, and control the volume and ratios in which the gases are delivered to the mixing chamber. Both control valves operate from one handle, enabling the anesthetist to turn off or on both gases with one operation and without changing the ratios, once they have been determined.

The method of measuring and delivering the gases to the mixing chamber is an important feature of the device. Each gas enters its respective delivery tube, both of which are in the mixing chamber, from the top. The wall



The Will Walter gas-oxygen apparatus.

of the mixing chamber and the lower half of the delivery tubes are of transparent glass. At the middle of the delivery tubes are carefully constructed delivery holes, through which the gases pass to the mixing chamber. These tubes also open into the chamber at the bottom. A numbered indicator is placed between these tubes, to be used in determining the ratios between the delivery of the two gases. The mixing chamber is also provided with an electric heating coil, which keeps the temperature of the contents at about 100° F. A safety vent provides for the escape of the gases from the mixing chamber in the event of an excessive accumulation. This vent is hydrostatically controlled.

Before an operation warm water is poured into the vent, filling the chamber up to the top of the ratio indicator. When the gases are turned on from their respective needle valves, the water levels in these delivery tubes fall and rise as a greater or lesser volume of gas is being delivered. As the walls of chamber and delivery tubes are of glass, these levels are clearly seen, and provide an accurate sight-feed measurement of the ratios in which the gases are being sent to the patient. The flow of the gas is even, continuous, and under perfect control at all times. Interchangeable masks for nose, mouth, or full face are provided.

The apparatus is finished in nickel, the outside cover is of polished aluminum, and the parts in the mixing chamber are heavily silver-plated.

To sum up, the apparatus is portable, compact, and durable. A safety vent prevents undue pressure being exerted on the patients' lungs, unless otherwise desired. The gases are washed, warmed, and moistened. A separate needle valve regulation enables one to obtain any volume or ratio of the gases desired, while a sight-feed measurement shows the mixture being delivered. A one-hand control permits both gases to be turned off or on with one operation without changing the ratios determined by the valves.

American High Frequency Generator

High frequency currents are now quite extensively used for post-operative treatment. The machine illustrated is one which is especially attractive for sanitarium and hospital use, since it is of extremely compact design and light in weight, so that it will prove easy for the nurse to handle. The entire apparatus is contained in one housing, that is, the Tesla coil, condenser, interrupter, etc. In general form the machine resembles a hand vibrator. At the

American high frequency generator.

back an adjusting screw is available for regulating the strength of the current. The vacuum electrodes can easily be attached by simply pushing them into the socket, as shown in the illustration. This high frequency coil will operate on either direct or alternating current of 110 volts. It can be attached to any convenient electric light fixture, and the insulation is such that there is no possibility of accidentally shocking the operator.

Prominent Hebrew merchants of Brooklyn, N. Y., have applied for the incorporation of an association which plans to build another Jewish hospital in that city. Among those who signed the application were Israel Rokeach, Joseph Prensky, John Sklar, Abraham Price, Joseph Jacobs, David Weberlowsky, Samuel Stein, and Rabbi Harris Masliansky. It is said that the institution will be located in the neighborhood of Willoughby and Tompkins avenues and that it will cost $500,000, of which $150,000 has already been subscribed.

QUERIES AND ANSWERS

Some Construction Problems

To the Editor of THE MODERN HOSPITAL:

Do you think it would be practical to have swinging corridor doors to all of the private rooms in a modern hospital? Do you think we should have transoms over the corridor doors in a modern hospital? Do you think it would be of practical utility to have private bath rooms?

I have advised our architect, from my own experience, that transoms are not necessary, and that private bath rooms, as a rule, are not often demanded because the patients usually go home as soon as convalescence is well established. Your opinion, however, based on wider experience, would help us out. OKLAHOMA.

We will try to answer your questions in the order in which you ask them.

1. We don't think it would be practical to have swinging doors to private rooms opening onto the corridor; when they would swing out, they would be liable to strike against something and somebody would get hurt, and we cannot see any earthly reason for having the doors swing out. Private room doors opening onto the corridors should be wide enough to admit a 42-inch bed. They should open inward, and they should be fitted with a check at the top and stops at the bottom.

2. By all means have workable transoms over every corridor door in your hospital; otherwise you will always have difficulty with your ventilation. We could give you many reasons for the necessity for transoms on the corridors, but the ventilation reason is sufficient, and, whatever you do, don't make the mistake of omitting them.

3. Whether you should have private bath rooms will depend on several things; (1) they make it possible for you to charge quite a little more for the private room, provided you have a clientele that can afford to pay good prices; (2) well-to-do patients, convalescing, will remain longer in the hospital if they can have bath facilities. We would not have bath rooms connected with the lower-priced private rooms.

The bath room is a matter of taste, but the transoms and the one-way swinging doors for private rooms involve fundamental hospital principles, and we hope you will not make any mistake in those two things.

Cost of 25-Bed Children's Wing

To the Editor of THE MODERN HOSPITAL:

Can you furnish plans and cost for a children's ward of 25 beds for the care of medical, tubercular, and the infectious diseases? The idea would be to have the service in a separate building in addition to the present institution. Many people in the city have asked me the probable cost and endowment required to carry on such a service, and am seeking information for that purpose.

A NEW YORK SUPERINTENDENT.

It would be impossible to furnish plans for a 25-bed children's hospital unless we knew something about the local conditions, the arrangement of your present hospital, and a lot of other details that are not available. But we can give you some figures as to the probable cost, it being understood that because you have a hospital at the present time you would not need a very large equipment, such, for instance, as power plant, kitchen equipment, sterilizer equipment, etc.

You can build a very satisfactory building for 25 beds, and include medical cases, tuberculosis, and the infectious diseases, in the form of a two-story independent building at a cost of about $1,000 per bed, or $25,000 for the building. If necessary, you could do it for a good deal less than that, but we don't think you would be pleased with the result because a building of this sort should by all means be absolutely fireproof, and the arrangement should be such that you can segregate patients suffering from certain diseases, in accordance with modern scientific necessities.

Such a hospital as this should not cost much to run because it will be part of the older institution, and a good deal of the time there will be infectious diseases in it, and hardly ever will it be crowded. About the only expenses you will have to take care of will be nursing, which will be sporadic in character, janitor service to keep the building clean, and a small amount of extra food that the patients will consume, with a very limited amount of dressings and medicines. The nursing problem ought not to give you very much concern because you will not have to keep any definite number of nurses on duty all the time, but can send them, when necessary, from the main hospital.

We think you could pretty safely figure on running that 25-bed hospital for about 50 cents per day per bed, or $12.50; $4,000 ought to take care of that building for you for the year.

If you will send us the blue prints and a photograph of your present building, we shall be very glad to make some rough sketches for you to study, and which will at least be a guide in the perfection of your plans.

Battleship Linoleum for Corridors and Ramps

To the Editor of THE MODERN HOSPITAL:

It is our plan to put something like a 3-foot width of battleship linoleum on the ramps and the corridors of our hospital. We may be compelled to put in full width, 8 feet, in the corridors and 5 feet on the ramps. But it is very expensive just now. What would THE MODERN HOSPITAL advise? FRED S. CLINTON, M. D., Tulsa, Oklahoma.

You will find that the battleship linoleum comes only in 6-foot widths, and, if you have 8-foot halls, we wouldn't think of putting in the full width. The 6-foot width in an 8-foot hall would be just fine. We put a 6-foot width in a 7-foot hall in one big building, and, with a 4-inch piece extended onto the 2-inch cove base out onto the floor, another foot could be taken up nicely by the use of the same device—a figured border of some sort. The main thing is to see that the linoleum is sealed perfectly at all points underneath. If your floors in the corridors are concrete or terrazzo, or one of the compositions, and you want to put linoleum runners, we would fasten them with a brass arrangement, and we are asking Dr. A. R. Warner, of Lakeside Hospital, Cleveland, to send you a little sketch and description of how they put their linoleum runners in, using such a brass strip. Dr. Warner did very well, and his job was a good one.

Your problem is quite different from the one we had, yet we gladly furnish the information. We have much battleship linoleum and cork carpet in the center of our wards, and, in fact, in all runways in the hospital. This had been mopped, and the water soaked into the cracks until all joints had rotted away and left cracks of various widths. We went over it all carefully, cutting back to the sound linoleum, changing and substituting pieces to

make up for the shortage. Over the cracks we nailed ordinary brass edging 1¼ inches wide, and then shellacked it all over. The mopping has been reduced to a minimum —in fact, in some places entirely cut out. The floors are swept with a sweeping compound to keep down the dust, and on the linoleum is sprayed a very small amount of light oil. With this treatment a linoleum keeps the gloss varnished surface with approximately two coats of shellac a year. The daily treatment is not more expensive than mopping, and the longer wear from the linoleum will pay for the shellacking, and the appearance is more satisfactory. Along the edges of the linoleum where there is little wear we use the wood tips to protect it. Where there is excessive wear—in doorways, etc.—we use a patented brass bevel, which we obtain from the Vincent Barstow Company, of Chicago. It was patented by one of their employees. We do not know where else you can secure it. We are asking them to send a sample, with price. We have used this in doorways through which heavy trucks pass daily. It stands the wear and protects the linoleum satisfactorily.

Sick Care of Graduate Nurses

To the Editor of THE MODERN HOSPITAL:

We are considering the proposition of taking care of our graduate nurses, giving them their hospital care—but a complication has arisen, due to the fact that some of them have come in under the care of physicians not under the supervision of the staff, so that the length of stay, etc., would not be under control of the hospital authorities.

We would like to know if it would be the proper thing to give hospital services, such as room, board, etc., to only those who place themselves under the care of the hospital authorities, as are the nurses in training, and to require those coming in under outside physicians to pay a reduced rate, such as we have been in the custom of charging all graduates. Our hospital allows any local physician to care for private cases. This, of course, is what gives rise to the complication. Could you give us any light on this subject as to the procedure in other hospitals in regard to this matter?

GEORGE D. HENDERSON,
Superintendent Holyoke (Mass.) City Hospital.

In our own hospital service we have always felt that, when a pupil nurse came into the hospital, the institution accepted certain obligations toward her—viz., that she was to get a good training and a diploma, in return for which she was to give certain services to the institution. When she got her diploma and went out of the institution, a graduated nurse in good standing in her profession, the institution had lived up to all of its obligations to her and owed her nothing more than reciprocal courtesies. After her graduation she gives nothing to the hospital for which she is not paid; she does nothing for the hospital unless paid for it, and we don't think the institution is under any obligations whatever to do anything for her for which it is not paid; she does, however, use what influence she has in behalf of the institution, and the institution, in its turn, should exercise its influence to see that she has professional work. So much for the obligation; some hospitals have an arrangement with their graduate nurses by which they have a right to go into the hospital when they are sick, at a reduced price for the room and service. In one hospital, the alumnæ association of nurses endowed a room in such a way that the members of the alumnæ always had the privilege of the use of that room at half price, and they have, and we think they should have, the privilege of choosing their own doctor, provided always that the doctor is persona grata in the institution. It hardly ever happens that a graduated nurse would come in as the patient of any other doctor than a member of the staff.

We certainly would not have any arrangement by which a graduate nurse could come into the hospital as the patient of any doctor, staff man, or other, unless she paid something for it. These women are not objects of charity, and, unless either they or their alumnæ have made arrangements about their care under certain specific conditions, we think the hospital ought to collect its fee from them—a reduced fee, but nevertheless a fee. That would, we think, avoid the possible difficulties about their staying too long, and the fact that they pay a fee also would, it seems to us, avoid the difficulties concerning the responsibility of the hospital in regard to their medical attention. Any other patient in your hospital has a right to choose his or her own doctor, providing he is paying a fee. Free patients have not a right to a choice. Why wouldn't the same thing be true in regard to the graduate nurse?

UNIQUE SCHEME TO ATTRACT FUNDS

Brooklyn Hospital Publishes Figures to Fit a Large or Small Purse, or Almost Any Favorite Philanthropy

The Brooklyn Hospital has chosen an effective but unique method to bring before the public the estimated cost of different special departments for the purpose of securing special donations. They have embodied their ideas in an attractive booklet, giving the statistical figures of the hospital and also the present activities, illustrated with neat floor plans and artistic sketches of prospective buildings.

In order that the general public may fully realize the special necessities of a hospital, and also be informed as to the ultimate expenditure of their gifts, the following list of approximate costs was devised:

SUGGESTED GIFTS FOR HOSPITAL

$25,000	will build the clinic lecture room.
20,000	will do all the work on the roads, walks and grounds.
15,000	will pay for the garage complete.
15,000	will equip the laundry.
15,000	will build one of the two large operating rooms.
12,500	will build the superintendent's house.
10,000	will build the office department.
10,000	will build one of two delivery rooms.
10,000	will build one of four 3-bed maternity wards.
10,000	will build the nursery.
10,000	will build one of two 4-bed maternity wards.
10,000	will build one small operating room.
10,000	will build one private ward.
10,000	will build one of two intern departments.
5,000	will equip the photographic room.
5,000	will equip the x-ray room.
5,000	will build one waiting room.
5,000	will build one sterilizing room.
5,000	will build one of two recovery rooms.
5,000	will build one of three private rooms.
3,300	will buy one automobile ambulance.
2,500	will equip one of two operating rooms or pathological laboratory.
1,000	will equip 12-bed ward and duty rooms.
1,000	will equip small operating room.
500	will maintain charity bed for one year.
500	will equip examination room.
500	will equip ward laboratory.
500	will equip emergency surgical ward.
500	will equip ward diet kitchen.
500	will equip one of two emergency treatment rooms.
300	will maintain child bed for one year.
250	will equip 6-bed ward.
200	will equip 4-bed ward.
150	will equip private room.
100	will furnish 2-bed ward.
50	will furnish bed and equipment.

THE HOSPITAL KITCHEN

Please address items of news and inquiries regarding The Hospital Kitchen (such as equipment and other matters connected with the kitchen and dependent departments of food storage and service) to The Modern Hospital, Kitchen Department, Metropolitan Building, St. Louis.

The Hospital Kitchen

The hospital kitchen should today receive attention equal to that given the other departments, but, in planning the hospital, are the various requirements of the kitchen given all the thought required? Is it not often the case that the kitchen occupies a space that is not the best suited for its purpose, and is considered from the standpoint of convenience alone for service, with a sacrifice of many features that would improve the efficiency and the comfort of those working in that department? There must be good light, good air, and an equipment sufficient for the work to be done, this equipment to be selected with the best of judgment, as it is as much an error to overload with unnecessary apparatus as it is to omit the necessary items.

Our best kitchens seem to be the ones that receive light from above as well as from side windows, and are ventilated from above, and, while it is not always possible to have a kitchen building with light and air from overhead, it seems as if it could more often be planned for an upper floor, where these good features could be had.

The usual kitchen equipment includes a hood, which, of course, is necessary if there is no other means of ventilation, but, with the arrangement mentioned, this most uncomfortable piece of equipment can be dispensed with. Located directly above the range and other heated apparatus, and necessarily hanging low, not over 6 feet 4 inches above the floor, the hood deflects a large amount of heat, and, unless unusually well ventilated, there is always a large amount of steam and smoke from the cooking that is carried from under the hood by counter drafts perhaps to rooms near the kitchen, or out of the side windows to annoy someone in rooms above.

It is pretty generally accepted that the grouping of the apparatus in the center of the kitchen is the best arrangement, but the good features of such an arrangement are often partially offset by the lack of good light when the light comes only from side windows and the light is dimmed by a hood over the apparatus, for in the center kitchen the apparatus is away from the light from these side windows, and requires artificial light at an added expense.

A careful inspection of equipment will show that the greater part of the apparatus needed can be operated by steam, and, with jacketed kettles, vegetable steamers, cereal cookers, and meat roasters all using steam for operation, only a comparatively small range is needed. It is advisable to select as much steam-operated apparatus as possible so as to keep down the size of the range, for it is the most expensive item of operation, whether for coal, gas, or electricity, as well as the one giving off the most heat. Again, by using steam cooking apparatus, it is possible to remove all the vapors and much of the odor of cooking directly from its source by means of a proper system of vents. How many times one goes into a kitchen to find it full of steam from the kettles and steamers not properly vented and improperly operated!

Much thought could be given to the selection of tables, for, while a table must be convenient for operation, it also should be of such construction as to be absolutely sanitary. This also applies to sinks, for the sink that may look the best in the new kitchen is often found after a short time to be the most unsightly and unsanitary piece of apparatus in use.

Last of all, but not least, why not consider those who have to use the kitchen, and select such apparatus as is the most practical, and arrange the same in such a manner as to make it simple of operation and convenient for the work required?

A. H. BOYNTON,
Morandi-Proctor Company, Boston.

Cost of Storage Refrigerators

As a supplement to the article which appeared in these columns in the April, 1915, issue, the accompanying illustrations show a typical storage ice box, with the different specifications which can be made for the same box, and the approximate prices at which the same sized box can be bought when constructed according to four different specifications. The cooling efficiency of each specification is also given. A storage refrigerator for, say, one 150-bed hospital would require to be approximately of the following dimensions: a compartment 20x10x11 feet for meats,

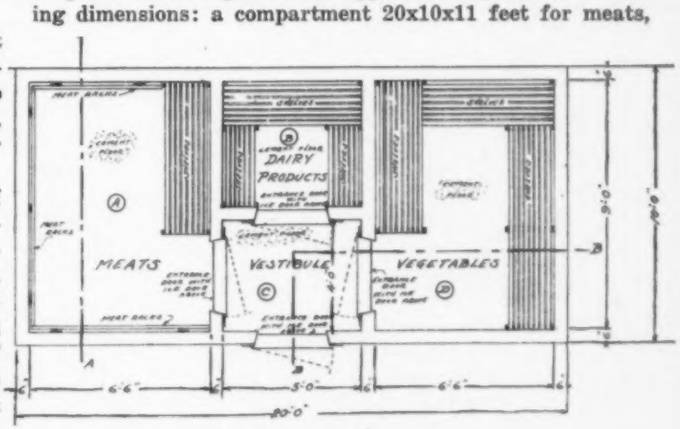


Fig. A. Floor plan.

a compartment 6½x9x11 feet for vegetables, and a compartment 4½x5x11 feet for milk, butter, etc., as shown in Figs. A, B, C.

The cost figures given and the efficiency figures are for this sized box, and are nearly enough correct to form a

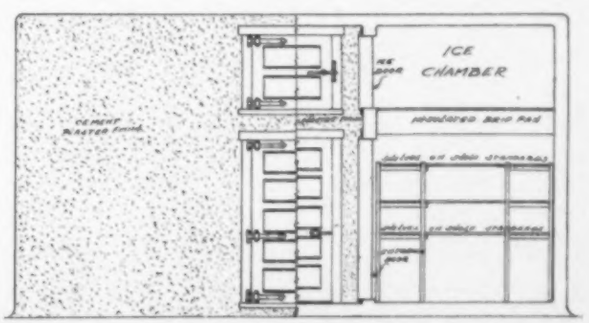


Fig. B. Part elevation.

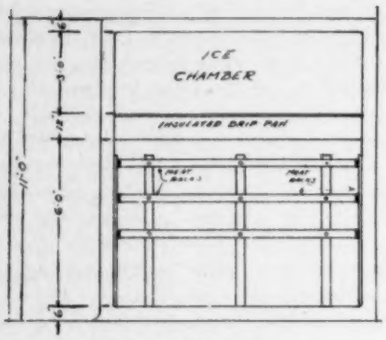


Fig. C. Interior detail.

reliable basis for comparing the four different specifications, drawings of which, showing the construction, are given in Figs. 1, 2, 3, 4.

SPECIFICATION NO. 1

The refrigerator walls to be insulated with 4-inch pure sheet cork, erected in two 2-inch layers in cement mortar; exterior and interior finish to be of Portland cement plaster; interior plaster to be finished with a coat of Ripolin white enamel or marbleoid; exterior plaster finished to

Fig. 1.

match furnishing of room; overhead drip pans to be insulated with sheet cork, fitted with insulated vents and lined with galvanized ingot iron; doors to be overlapping, with gasket packing, and fitted with brass ball-bearing spring hinges and self-closing brass lever fasteners; shelves and meat racks, including standards and uprights, to be tinned or galvanized.

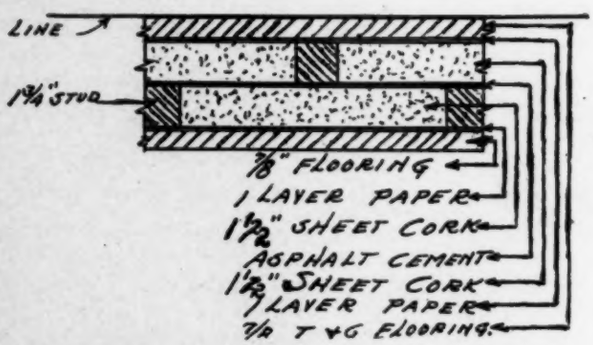


Fig. 2.

The foregoing specification calls for what is about the most perfect refrigerator that is built in modern refrigerator practice. Being built of cement, it is permanent in character and practically indestructible, except the doors, which, however, will last for a long period. Of course, more money can be spent on exterior or interior finish and hardware, but the cooling results will not be increased. A refrigerator built under this specification will retain its insulating efficiency just as long as it exists. The approximate cost of this refrigerator will be $1,685. The approximate heat loss will be 1.6 B. T. U. per square foot in twenty-four hours.

SPECIFICATION NO. 2

Refrigerator walls to be insulated with 3-inch pure sheet cork, with two layers insulating paper each side, and cork to be set in stud walls; interior finish spruce flooring, sandpapered and shellaced; exterior finish to be beaded flooring, painted two coats, overhead drip pans insulated with granulated cork, fitted with vents and lined with open-hearth ingot iron; doors to be overlapping, with felt packing, and fitted with spring steel ball-bearing galvanized hinges and secured with lever fasteners; shelves and meat racks and rails iron, tinned or galvanized finish; standards and rails iron, tinned or galvanized finish; uprights to be of wood.

The approximate cost of this refrigerator will be $1,350, the approximate heat loss will be 1.9 B. T. U. per square foot in twenty-four hours.

It will be noted that, while the cost of a refrigerator built under this specification is $335 less than that built under specification No. 1, the heat loss is only three-tenths of 1 B. T. U. per square foot more in twenty-four hours. The reason for this is that, while there is one-fourth less cork in its construction, the spruce lining, the wooden exterior, and the insulating paper act as insulating material, and to a large extent make up the reduced amount of cork. For economical cooling, therefore, specification No. 2 nearly equals No. 1, but the difference is in the durability. Any wood exposed to the damp will in time show deteriorations, and this is especially true of the interior lining. A difference, however, of about 20 percent in the cost is an item to be considered unless absolute permanency is desired.

SPECIFICATION NO. 3

Refrigeration walls to be insulated with 2½-inch hand-picked mineral wool, with two layers insulated paper each side, and mineral wool to be packed between studs and braces; interior finish spruce, flooring sandpapered and

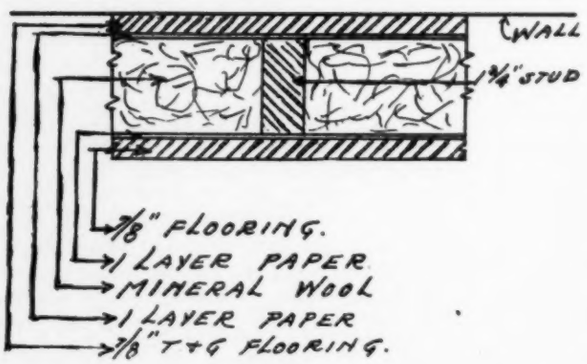


Fig. 3.

shellaced; exterior to be of beaded flooring, painted two coats; drip pan to be fitted with vents and lined with galvanized iron; doors to be overlapping, with felt packing, and to have steel ball-bearing galvanized hinges and to be secured with lever fasteners; shelves, meat racks, and rails, including uprights and standards, to be of wood.

The proximate cost of the same size refrigerator built under this specification will be $977. The approximate heat loss will be 4.9 B. T. U. per square foot in twenty-four hours.

This refrigerator costs $373 less than the one of specification No. 2 and $708 less than No. 1, but the heat loss is two and one-half times as much as No. 2; consequently, the increased cost of cooling will very soon offset the lower cost of installation, and, even supposing the refrigerator retained its efficiency, it would be the costlier in the end.

The presumption that this refrigerator, probably the most commonly used, will retain its efficiency is not justified. Mineral wool, being of a fibrous or porous structure, absorbs water; this water displaces the trapped air in the mineral wool, and the insulating power is lowered by the substitution of water (which is a heat conductor) for the air originally in the porous fibers. In time moisture is bound to reach the insulating material as the seams of the wood open or the refrigerator warps; rats often eat holes, which admit moisture through the mineral wool by capillary attraction, and, as the dampening of the insulating material proceeds, the insulating efficiency goes down, while the cooling bill goes steadily up. To the eye, however, this refrigerator looks exactly like the No. 2 when erected, except the difference in the shelving.

SPECIFICATION NO. 4

Refrigerator walls to be built 6 inches thick, with air spaces and layers of insulating paper nailed to the studding; interior finish to be yellow pine flooring, finished with one coat of stain; exterior finish to be of beaded

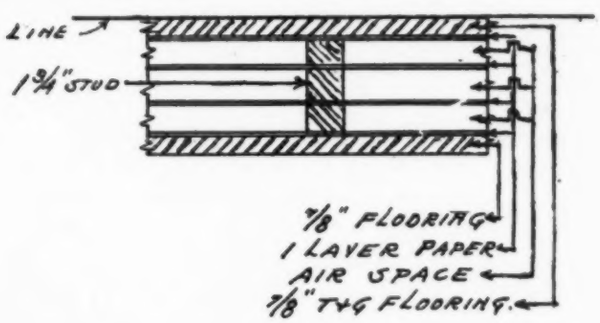


Fig. 4.

flooring, painted two coats; overhead drip pan to be lined with galvanized iron; doors flush, with common T-hinges and common fasteners; shelves and meat racks wood; no uprights or standards.

The approximate cost of this refrigerator will be $782. The approximate heat loss will be 8.3 B. T. U. per square foot in twenty-four hours.

This last specification is the cheapest form of construction, but the heat losses make it very costly in operation.

Theoretically, air permanently confined in dead air spaces is the highest form of insulation for efficiency, and various forms of careful construction produce refrigerators of undoubted efficiency when new, but, no matter how great the care exercised in building refrigerators with air space walls, the air spaces must soon become leaky owing to nail holes and the inevitable shrinkage of the lumber used in their construction. For that reason, where permanency is desired and the lowest cost of operation is sought, cork should be used, preferably set up in concrete, with enamel or marbleoid interior finish, or with wood wall and wood interior finish.

In buying storage refrigerators, it is all important that the firms invited to bid should bid on one specification, which should be decided on by the buyer on expert advice. If this is not done, accurate comparison of prices becomes very difficult.

HOSPITAL, MEDICAL, AND SPECIAL MEETINGS

Catholic Hospital Association Meeting

The second annual meeting of the Catholic Hospital Association is to be held in Milwaukee on June 7, 8, and 9, and the tentative program is published below.

There are to be some very important personages in attendance at the meeting, who will discuss the topics set down in the carefully prepared program. The participants are men high in their profession and others are people prominent in various activities connected with hospital administration.

In connection with the meeting of the association the Marquette University Medical School courses of study for sisters and nurses will begin, and will cover a period of about six weeks from June 12 to July 22. It is intended to give laboratory and didactic instruction for sisters in charge of hospitals and at the head of various departments, and for graduate nurses working in the institutions, some of the subjects being as follows: clinical pathology, bacteriology and medical photography, x-ray work, massage, anesthetics, social service, including hospital record keeping, sanitation, surgical free-hand drawing, and dietetics.

Father Moulinier, president of the association, was enthusiastic over the results of this course of study last year and intends to make it more comprehensive this season.

During the year quite a number of new members of the association have been registered, and it is expected that several hundred Catholic hospitals in all parts of the country will be represented at the Milwaukee convention. It is hoped that the excellent start made last year will be given a new impetus by the enthusiasm, eagerness, and ambition of the members to increase their knowledge in all branches of hospital administration.

The full program and the names of those who will participate in the discussions and all the details concerning the meeting will be published in these pages in the June number.

PRELIMINARY PROGRAM

FIRST DAY, WEDNESDAY, JUNE 7

9:00 a. m. Mass and sermon, Gesu church.
10:00 a. m. Registration; payment of dues.
11:00 a. m. Address of welcome by a city official.
11:30 a. m. President's address—Charles B. Moulinier, S. J.
12 to 2 p. m. Recess.
2:00 p. m. Paper, "The Nature, Value, and Necessity of 'Team Work' in a Hospital"—Dr. C. H. Mayo, Rochester, Minn.
3:00 p. m. Paper, "What the Physician Should Contribute to the 'Team Work'"—Dr. E. Evans, St. Francis Hospital, La Crosse, Wis.
4:00 p. m. Address, "The Ethical Basis of 'Team Work' in Hospitals"—Austin O'Malley, Philadelphia.

SECOND DAY, THURSDAY, JUNE 8

9:00 a. m. Paper, "What the Sister Should Contribute to the 'Team Work'"—Mother M. Esperance, St. Mary's Hospital, Minneapolis, Minn.
10:00 a. m. Paper, "What the Intern Should Contribute to the 'Team Work'"—Dr. E. H. Beckman, St. Mary's Hospital, Rochester, Minn.

11:00 a. m. Paper, "What the Nurse Should Contribute to the 'Team Work'"—Miss Adelaide Walsh, R. N., Chicago, Ill.

12 to 2 p. m. Recess.

2:00 p. m. Paper, "What the Patient Should Contribute to the 'Team Work'"—Dr. W. E. Fairchild, St. Mary's Hospital, Green Bay, Wis.

3:00 p. m. Paper, "What the Chaplain Should Contribute to the 'Team Work'"—Rev. F. W. Tracy, St. Mary's Hospital, Rochester, Minn.

THIRD DAY, FRIDAY, JUNE 9

9:00 a. m. Symposium—Paper 1, "The Medical Profession's Obligation to Every Patient Who Needs Hospital Care"—Dr. Henry A. Christian, Peter Bent Brigham Hospital, Boston. Paper 2, "The Hospital's Obligation to Every Patient Who Enters;" (a) Through Its Selection of Staff; (b) Through Its Selection of Interns; (c) Through Its Selection of Nurses; (d) Through Its Selection of Equipment; (e) Through Its Selection of Diet—Dr. Jon T. Bottomlie, Carney Hospital, Boston, Mass. Paper 3, "The Staff's Obligation to Every Patient Who Enters"—Dr. B. F. McGrath, Marquette University School of Medicine, Milwaukee, Wis.

12 to 2 p. m. Recess.

2:00 p. m. Business meeting.

3:00 p. m. Meeting of new executive board.

Ohio Hospital Association Meeting

The next meeting of the Ohio Hospital Association, the organization of which was described in our issue of October, 1915, will be held at Cincinnati, Wednesday, Thursday, and Friday, May 24 to 26, inclusive. There is every assurance that the sessions will be largely attended, and the following program indicates that papers and discussions of much interest to hospital executives will be presented.

PROGRAM

WEDNESDAY, MAY 24

Morning

11:00. Registration.

Afternoon

1:30. Convention called to order by the president. Reading of the minutes of the previous convention. Address of welcome by Mayor George Puchta. Response by the president and president's address—E. R. Crew, M. D. Papers: 1, C. G. Souder, M. D., Toledo; 2, "The Hospital and the Operation of the Workmen's Compensation Act"—W. S. Hoy, M. D., Wellston; 3, "The Community's Obligation for the Care of Its Indigent Sick and Injured"—Mr. Fred. S. Bunn, superintendent Youngstown City Hospital. Discussion: The Rev. H. C. LeBlond, director of Catholic Charities, Cleveland. Reports of committees. Announcements.

Evening

8:00. Speakers: John A. Hornsby, M. D., Editor THE MODERN HOSPITAL. E. R. Hayhurst, M. D., director Division of Industrial Hygiene Ohio State Board of Health, "Compulsory State-Wide Health Insurance."

THURSDAY, MAY 25

Morning

9:00. Conference at Cincinnati Tuberculosis Sanatorium for Ohio tuberculosis hospital superintendents.

9:30. Round table discussions at Hotel Gibson. Subjects: 1, "What Constitutes 'Charity' in a Hospital." 2, "Affiliation of Hospitals in the Training of Nurses;" 3, "Hospital Organization;" 4, "What Hospital Employees Should Be Housed in the Hospital?" 5, "Should Pupil Nurses Be Used as a Means of Revenue to the Hospital?" 6, a discussion of measures of economy in hospital construction, management, and purchasing; 7, "What the State Medical Board Shall Do with the $38,000 Received in Nurses' Registration Fees;" 8, "Hospital Accounting of Patients Treated."

12:00. Buffet luncheon and visit to Cincinnati General Hospital.

Afternoon

2:00. Visit to Good Samaritan and Christ hospitals and auto ride around city.

Evening

6:30. Banquet at Hotel Gibson. Speakers: C. R. Holmes, M. D., chairman Cincinnati Hospital Commission; Charles F. Hoover, M. D., professor of clinical medicine Western Reserve Medical School and visiting physician Lakeside Hospital, Cleveland—The Recent Progress in Cooperation Between Medical Staffs and Hospitals to Secure Greater Scientific Results.

FRIDAY, MAY 26

Morning

9:30. Reports of committees. Election of officers. Symposium: The State Registration of Nurses Law. "The Operation of the State Registration of Nurses Law"—J. S. Cherrington, M. D., superintendent of Cherrington Hospital, Logan; Miss Laura R. Logan, R. N., superintendent of nurses Cincinnati General Hospital. Discussion: Miss Anza Johnson, examiner of nurses for the State Medical Board; Miss Mary M. Roberts, president State Graduate Nurses' Association; Miss Grace E. Allison, superintendent of nurses Lakeside Hospital, Cleveland; O. O. Fordyce, M. D., superintendent Athens State Hospital. Adjournment.

Papers on this program are limited to fifteen minutes. Discussions are limited to five minutes unless otherwise indicated. No papers will be read by title.

COMMITTEES

LOCAL COMMITTEE ON ARRANGEMENTS—A. C. Bachmeyer, M. D., chairman, superintendent Cincinnati General Hospital; Rev. A. G. Lohmann, superintendent German Deaconess Hospital, Cincinnati; Miss Alice Thatcher, superintendent Christ Hospital, Cincinnati.

NOMINATING COMMITTEE—A. R. Warner, M. D., chairman, superintendent Lakeside Hospital, Cleveland; Miss Alice Thatcher, superintendent Christ Hospital, Cincinnati; J. S. Cherrington, M. D., superintendent Cherrington Hospital, Logan.

CONSTITUTION AND RULES COMMITTEE—C. B. Hildreth, chairman, superintendent St. Luke's Hospital, Cleveland; Miss Margaret B. Mateer, superintendent Lima Hospital, Lima; Miss Margaret M. Wallace, superintendent Toledo Hospital, Toledo.

MEMBERSHIP COMMITTEE—Rev. A. G. Lohmann, chairman, superintendent German Deaconess Hospital, Cincinnati; Miss Rose K. Steinmetz, superintendent Children's Hospital, Akron; Sister A. M. Purcell, superior St. Vincent's Hospital, Toledo.

RESOLUTIONS COMMITTEE—Rev. H. C. LeBlond, chairman, director of Catholic Charities, Cleveland; W. S. Hoy, M. D., superintendent Hoy Hospital, Wellston; A. C. Bachmeyer, M. D., superintendent Cincinnati General Hospital, Cincinnati.

LEGISLATIVE COMMITTEE—F. S. Bunn, chairman, superintendent Youngstown City Hospital, Youngstown; Miss Mary A. Jamieson, superintendent Grant Hospital, Columbus; J. S. Cherrington, M. D., superintendent Cherrington Hospital, Logan; Miss M. A. Lawson, superintendent Akron City Hospital, Akron; W. S. Hoy, M. D., superintendent Hoy Hospital, Wellston

AUDITING COMMITTEE—H. J. Pool, M. D., chairman, surgeon-in-charge Pool Hospital, Port Clinton; Miss Alma C. Hogle, superintendent Huron Road Hospital, Cleveland; Miss Nellie I. Templeton, superintendent City Hospital, Salem.

Kansas Hospital Association Meeting

The next meeting of the Kansas Hospital Association will be held at Topeka on Tuesday, May 2, in the offices of the State Board of Control in the Capitol building.

PROGRAM

President's address—Dr. J. T. Axtell, Newton.

"The Training Schools for Nurses in Kansas"—Sister Catherine Voth, member State Board of Registration and Examination for Nurses.

"The Responsibility in Cases of Hot Water Bottle Burns"—Dr. R. Claude Young, Arkansas City.

"The Small Hospital and the Training School"—Dr. F. W. Shelton, Independence.

"The Necessity of Vital Reports"—W. J. V. Deacon, State Board of Health, Division of Vital Statistics.

"A Bureau of Standards and Supplies"—Dr. M. Trueheart, Miss Myrtie Proctor, R. N., Sterling, Kas.

The Hospital of the Good Shepherd, Syracuse, N. Y., is the possessor of a fine, new motor ambulance presented to the institution by Alexander T. Brown, a trustee of Syracuse University and a member of the hospital board. The vehicle is arranged to accommodate three patients in emergency cases. When a single patient is carried, there is provision for an easy couch in an adjustable position, with ample room and an abundance of light and air.

Dr. Wilmer Krusen, director of the department of health and charities of Philadelphia, recently announced that the first step in the proposed extensive improvements at the Philadelphia General Hospital will be to bring the pathological and clinical laboratories up to a high standard. A fund of $4,000,000 is now available for new buildings and equipment at this institution.

A fine new home for St. Mary's Hospital, Walla Walla, Wash., will be completed about July 1. The building is a five-story fireproof structure of tile and brick, with stone trimmings. It will have a capacity of 125 beds, and when fully equipped will have cost over $250,000. The old frame building in which the institution was formerly housed was destroyed by fire in January, 1915.